

Daily report

28-10-2020

Analysis and prediction of COVID-19 for EU-EFTA-UK and other countries

Situation report 147

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and



Foreword

The present report aims to provide a comprehensive picture of the **pandemic situation of COVID-19** in the EU countries, and to be able to foresee the situation in the next coming days. We provide some figures and tables with several **indexes and indicators** as well as an **Analysis** section that discusses a specific topic related with the pandemic.

As for the predictions, we employ an **empirical model**, verified with the evolution of the number of confirmed cases in previous countries where the epidemic is close to conclude, including all provinces of China. The model does not pretend to interpret the causes of the evolution of the cases but to permit the **evaluation of the quality of control measures made in each state** and a **short-term prediction of trends**. Note, however, that the effects of the measures' control that start on a given day are not observed until approximately 7-14 days later.

We show an individual report with 8 graphs and a summary table with the main indicators for different countries and regions. We are adjusting the model to **countries and regions** with at least 4 days with more than 100 confirmed cases and a current load over 200 cases.

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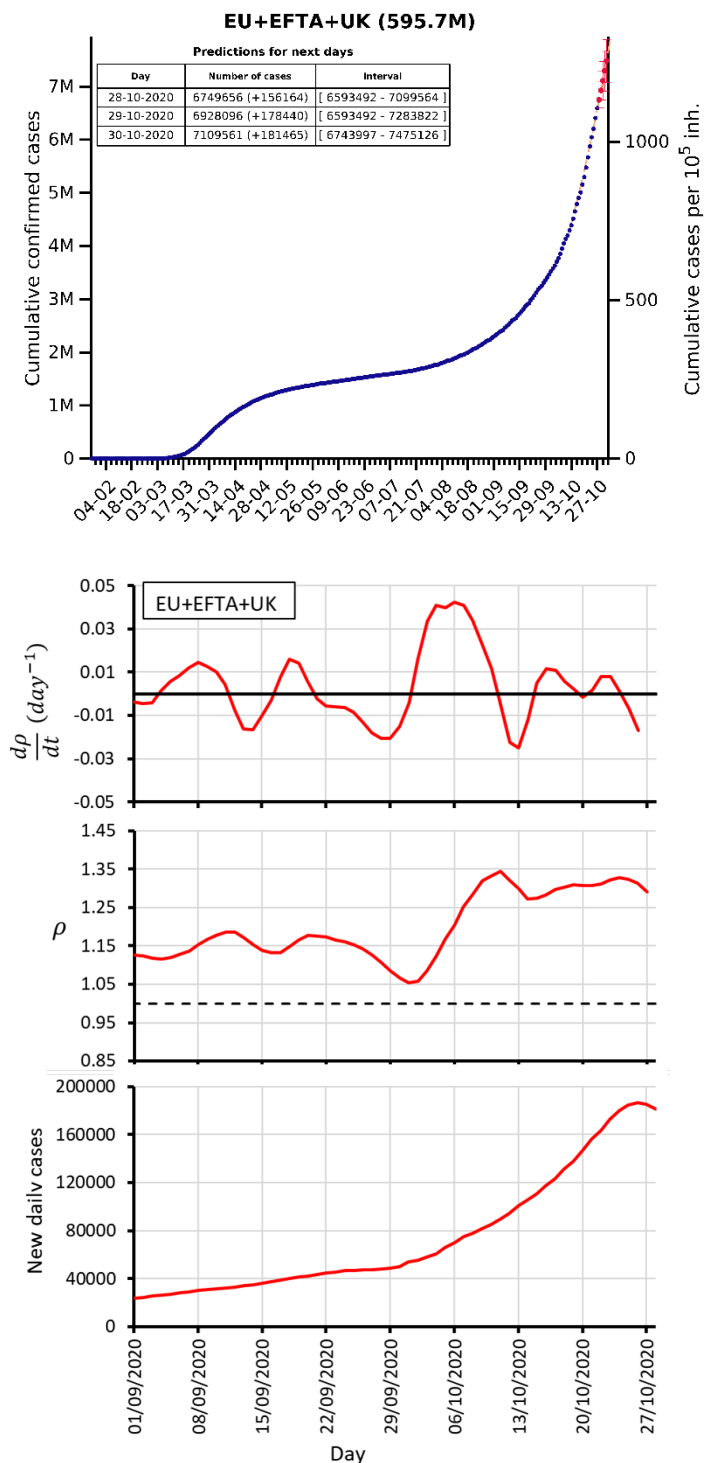
Situation and highlights

Global situation

Most EU+EFTA+UK countries are making an effort to contain the spread of Covid-19. Until a few days ago, it seemed that the growth was unstoppable. Luckily, we have the first symptoms that it is possible to stop this growth and that it is possible to improve. However, we are only at the beginning of the process.

The derivative of the empiric reproduction number, $\frac{d\rho}{dt}$, reflects its trend to increase (if positive) or decrease (if negative). We must keep in mind that if ρ is greater than 1 we have exponential growth with an exponent of $\frac{\rho}{5}$ ($days^{-1}$). If the slope of ρ is greater than zero, growth accelerates even more. Therefore, the first symptom of improvement is to observe that $\frac{d\rho}{dt}$ begins to decrease. On 23rd October this parameter started decreasing, reaching the 0 value on 24th and a negative value on 25th. Then, on 27th October, there was a slight decrease in the number of new cases. We have been observing this behaviour for a few days, that should be confirmed. If the behaviour follows this trend in the coming days, next step will be the decrease in A_{14} in approximately 10 days.

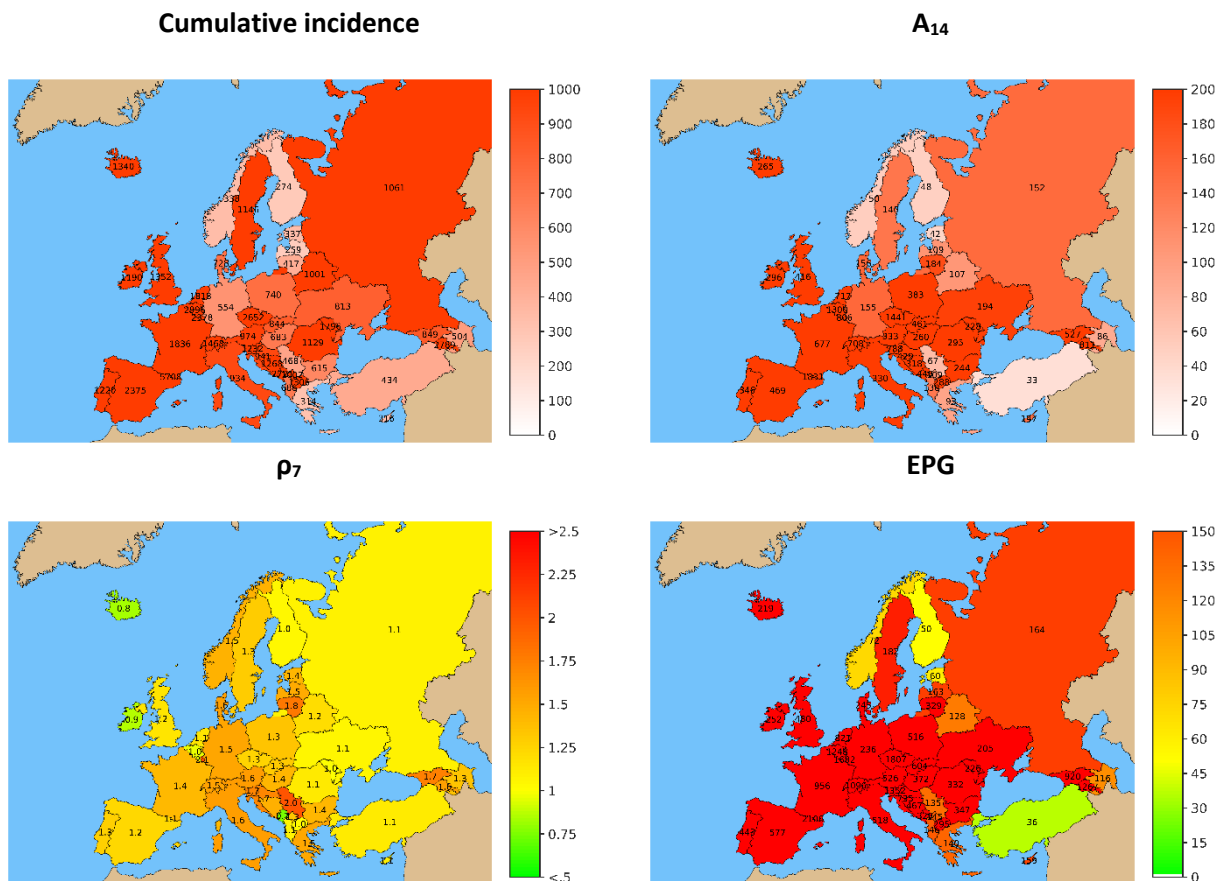
Overall, the set of countries as a whole has a population of about 528 million, so the above curves probably show the real trends, they are little affected by local fluctuations. However, the dynamics of the EU+EFTA+UK is largely determined by the larger countries. We observe this behaviour in a more or less similar way in most countries, large, medium and small, although some have not yet shown a decrease in the number of new cases such as Italy. Switzerland is the only country that shows a dangerous dynamic, with a significant number of daily cases, of the order of about 8,000, and a very significant ρ (1.53).



Situation and trends per country

Maps of current situation in EU countries. Colour scale is indicated in each legend.

- Cumulative incidence: total number of reported cases per 100,000 inhabitants
- A_{14} : Cumulative incidence last 14 days per 100,000 inhabitants (active cases)
- ρ_7 : Empiric reproduction number
- EPG: Effective Potential Growth ($EPG = A_{14} \cdot \rho_7$)



Tables of current situation in EU countries. Colour scale is indicated in each legend.

Incidence, mortality and epidemiological indexes.

Country	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$p_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Czech Republic	1,440.7	154,286	2,652.3	284,033	23.8	2,547	1.25	1,807	9
Belgium	1,299.9	150,651	2,995.7	347,195	95.2	11,038	0.96	1,248	9
Liechtenstein	860.1	328	1,266.5	483	2.6	1	1.80	1,546	9
Luxembourg	805.8	5,044	2,377.7	14,884	23.5	147	2.09	1,682	9
Slovenia	787.5	16,372	1,231.5	25,603	9.2	192	1.72	1,352	9
Netherlands	717.1	122,870	1,818.1	311,532	41.6	7,132	1.14	821	9
Switzerland	708.5	61,316	1,467.9	127,042	22.3	1,929	1.55	1,096	9
France	677.5	442,223	1,836.4	1,198,695	54.4	35,541	1.41	956	9
Spain	469.2	220,652	2,374.7	1,116,738	75.1	35,298	1.23	577	9
Slovakia	461.0	25,170	843.6	46,056	3.2	176	1.31	604	9
Croatia	429.4	17,628	940.8	38,621	11.4	470	1.71	735	9
United Kingdom	416.4	282,655	1,351.6	917,575	66.8	45,365	1.15	480	9
Malta	395.9	1,748	1,287.5	5,685	12.5	55	0.88	347	9
Poland	383.0	144,951	740.4	280,229	12.2	4,615	1.35	516	9
Portugal	346.3	35,311	1,220.3	124,432	23.3	2,371	1.28	443	9
Austria	332.9	29,984	974.3	87,746	11.2	1,006	1.58	526	9
Italy	329.6	199,311	934.1	564,778	62.4	37,700	1.57	518	9
Ireland	295.8	14,608	1,190.1	58,767	38.3	1,890	0.85	252	9
Romania	295.0	56,755	1,129.1	217,216	34.2	6,574	1.12	332	9
Iceland	265.5	906	1,340.4	4,574	3.2	11	0.82	219	9
Hungary	260.4	25,151	682.5	65,933	16.3	1,578	1.43	372	9
Bulgaria	243.6	16,927	614.5	42,701	16.7	1,161	1.42	347	9
Lithuania	183.5	4,996	417.4	11,362	5.2	141	1.79	329	9
Denmark	156.3	9,056	727.8	42,157	12.2	709	1.57	245	9
Germany	154.7	129,654	554.1	464,239	12.2	10,183	1.52	236	9
Cyprus	146.6	1,770	316.1	3,817	2.1	25	1.09	159	8
Sweden	140.2	14,159	1,146.5	115,785	58.6	5,918	1.30	182	8
Latvia	108.8	2,053	259.4	4,893	3.3	63	1.49	163	8
Greece	93.0	9,692	314.2	32,752	5.7	593	1.51	140	8
Norway	49.8	2,702	338.3	18,341	5.2	280	1.45	72	6
Finland	48.1	2,664	273.7	15,163	6.4	354	1.04	50	6
Estonia	42.0	557	336.6	4,465	5.5	73	1.43	60	6

Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	Worst	>2.0	>150
0.0	Best	Best	Best	Best	Best	Best	0.0	0

Table of current situation in some EU provinces. Colour scale is indicated in each legend.

Province	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$p_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Brussels	2,004.6	24,215	4,326.5	52,264	143.1	1,729	1.34	2,676	9
Prague	1,407.2	17,899	3,405.6	43,319	NA	NA	1.12	1,570	9
North Holland	803.3	22,918	2,137.0	60,968	34.5	985	1.10	880	9
Bern	540.1	5,590	966.5	10,003	10.9	113	1.85	1,000	9
Madrid	412.8	27,414	4,386.9	291,323	152.5	10,125	0.95	391	9
Wien	404.1	7,665	1,542.8	29,267	17.8	337	1.34	541	9
Lisbon	378.6	10,727	1,919.3	54,373	33.4	947	1.31	494	9
Lazio	290.3	17,065	645.2	37,929	19.4	1,139	1.44	418	9
London	281.7	25,240	993.4	89,021	NA	NA	1.20	339	9
Berlin	258.3	9,737	744.6	28,064	6.7	251	1.46	378	9

Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	Worst	>2.0	>150
0.0	Best	Best	Best	Best	Best	Best	0.0	0

⁽¹⁾ p_7 is the average of 7 consecutive p , but can still fluctuate. ⁽²⁾ EPG stands for Effective Growth Potential, which is the product of reported cumulative incidence of last 14 days per 10⁵ inhabitants by p_7 (empiric reproduction number). Biocom-Cov degree is an epidemiological situation scale based on the level of last week's mean daily new cases (<https://upcommons.upc.edu/handle/2117/189661>, <https://upcommons.upc.edu/handle/2117/189808>).

Situation of hospitalisations and ICUs in some EU countries. The analysis is done for those countries that report a historical series with current (active) number of patients in hospitals and ICUs¹. We provide:

- Current active hospitalisations and patients in ICU per 100,000 inhabitants.
- Current absolute number of active hospitalisations and patients in ICU.
- Rate of occupation of curative care hospital beds by Covid-19 patients (data from Eurostat 2018²), only for hospitalisations.
- Current rate of occupation with regards to the maximum Covid-19 occupation reached in this pandemic.
- Weekly increase in Covid-19 patients in hospitals and ICUs.

Country	Hospitalisations					Intensive Care Units			
	Active /10 ⁵ inh.	Active (total)	Occupation (Eurostat 2018) (%)	Occupation (historical maximum) (%)	Week-to-week Growth (%)	Active /10 ⁵ inh.	Active (total)	Occupation (historical maximum) (%)	Week-to-week Growth (%)
Belgium	47.9	5554	9.8	96.4	74.3	7.9	911	70.9	67.5
Hungary	32.8	3166	7.6	100.0	35.5	2.7	263	100.0	18.5
Slovenia	29.4	612	7.1	100.0	66.1	4.8	99	100.0	45.2
France	29.1	18978	9.3	58.8	42.0	4.5	2918	41.3	28.0
Italy	25.4	15366	9.8	46.6	55.8	2.3	1411	34.7	51.7
Slovakia	22.5	1231	4.7	100.0	49.1	1.5	82	85.4	207.2
Switzerland	22.2	1922	6.3	85.3	84.4	2.1	180	46.6	78.6
Portugal	17.1	1747	5.2	100.0	34.0	2.5	253	100.0	35.3
Austria	14.9	1345	2.8	100.0	54.6	2.5	224	74.9	40.4

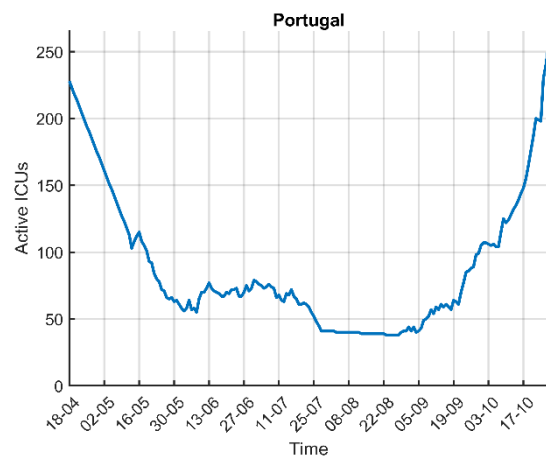
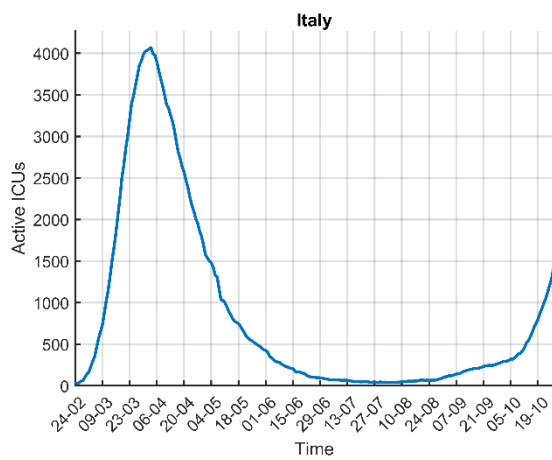
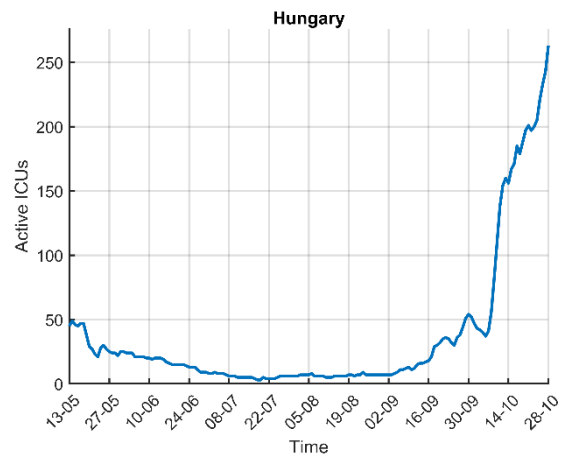
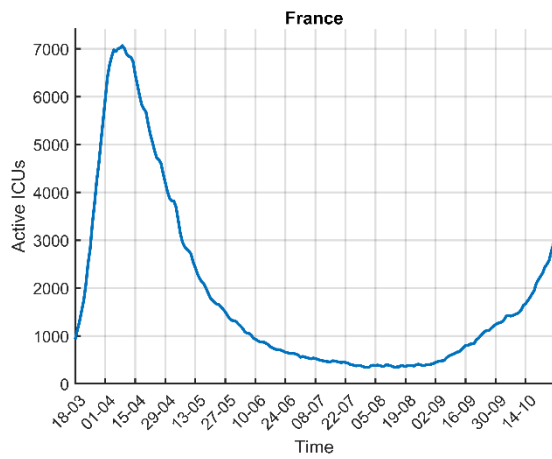
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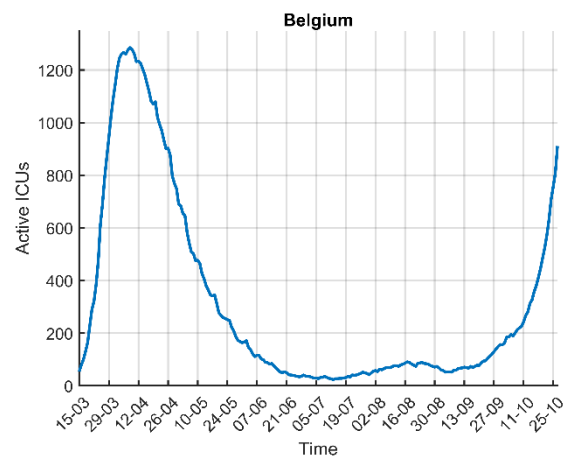
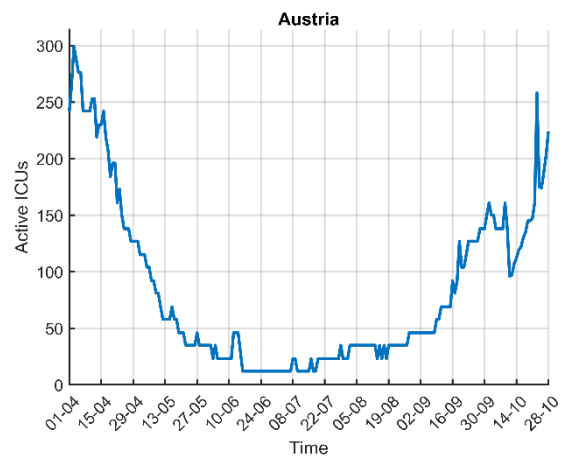
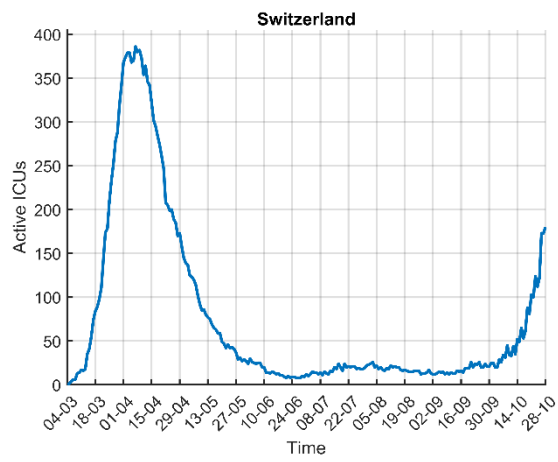
Colour scale
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¹ <https://github.com/ec-jrc/COVID-19>

² https://ec.europa.eu/eurostat/databrowser/view/hlth_rs_bds/default/table?lang=en

Evolution of of active ICUs in some EU countries.





Situation and trends in some European regions³

Table of current situation in Spain by region. Colour scale is indicated in each legend.

Country	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$\rho_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Navarra	1,049.1	6,819	4,680.1	30,419	103.1	670	0.96	1,006	9
Melilla	942.0	798	2,632.4	2,230	13.0	11	1.15	1,087	9
Aragon	664.4	8,775	3,684.8	48,668	117.4	1,550	1.33	882	9
Castilla y Leon	638.0	15,364	3,274.4	78,850	142.0	3,419	1.27	811	9
La Rioja	623.1	1,954	3,583.4	11,237	140.3	440	1.25	778	9
Ceuta	512.7	435	1,566.4	1,329	15.3	13	1.26	645	9
Catalunya	504.6	38,175	2,493.3	188,620	78.8	5,961	1.33	670	9
Euskadi	456.1	9,935	2,728.2	59,421	93.2	2,031	1.27	580	9
Murcia	413.9	6,158	2,069.0	30,781	11.4	169	1.05	434	9
Madrid	412.8	27,414	4,386.9	291,323	152.5	10,125	0.95	391	9
Castilla-La Mancha	408.6	8,317	3,035.6	61,789	158.3	3,223	1.03	419	9
Extremadura	371.0	3,953	1,759.7	18,747	62.0	660	1.39	514	9
Andalucía	357.1	30,092	1,308.2	110,235	25.8	2,175	1.31	468	9
Asturias	316.2	3,233	960.1	9,815	36.9	377	1.26	398	9
Cantabria	246.7	1,435	1,493.3	8,686	40.7	237	1.63	402	9
Galicia	205.8	5,556	1,143.5	30,879	31.2	843	1.38	284	9
Comunitat Valenciana	171.4	8,528	1,165.7	57,985	34.5	1,716	1.13	193	8
Baleares	153.8	1,827	1,439.8	17,102	29.9	355	1.10	169	8
Canarias	73.2	1,615	749.6	16,545	12.0	265	0.98	72	7

Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	>2.0	>150	
0.0	Best	Best	Best	Best	Best	0.0	0	

Table of current situation in Poland by region. Colour scale is indicated in each legend.

Region	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$\rho_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Małopolskie	573.5	19,277	1,121.4	37,690	15.3	513	1.14	653	9
Opolskie	525.8	4,974	925.7	8,757	18.9	179	1.25	655	9
Kujawsko-pomorskie	519.8	10,749	817.0	16,896	7.9	163	1.61	839	9
Łódzkie	506.5	12,181	932.9	22,437	16.3	392	1.31	663	9
Podkarpackie	486.9	10,356	827.4	17,598	16.9	360	1.22	596	9
Wielkopolskie	442.9	15,382	792.9	27,536	15.7	544	1.34	592	9
Mazowieckie	437.9	23,694	796.9	43,119	12.0	649	1.53	670	9
Świętokrzyskie	418.2	5,173	744.9	9,214	12.8	158	1.37	574	9
Lubuskie	374.6	3,757	567.9	5,696	5.0	50	1.68	628	9
Pomorskie	366.6	8,450	746.6	17,209	10.8	248	1.24	456	9
Lubelskie	351.8	7,430	600.8	12,689	9.4	199	1.34	472	9
Śląskie	333.1	14,955	929.5	41,725	18.7	839	1.32	439	9
Zachodniopomorskie	323.9	5,428	526.5	8,824	4.4	73	1.58	510	9
Warmińsko-mazurskie	283.6	3,982	491.2	6,897	6.2	87	1.43	406	9
Dolnośląskie	282.0	8,177	547.1	15,865	10.1	294	1.32	372	9
Podlaskie	278.2	3,280	585.0	6,897	8.7	103	1.24	346	9

Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	>2.0	>150	
0.0	Best	Best	Best	Best	Best	0.0	0	

³ <https://github.com/ec-jrc/COVID-19/tree/master/data-by-region>

Table of current situation in Austria by region. Colour scale is indicated in each legend.

Region	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$\rho_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Salzburg	1,856.6	2,822	3,923.7	5,964	32.2	49	1.27	2,353	9
Vorarlberg	536.5	2,114	1,177.4	4,639	7.6	30	1.52	813	9
Tirol	527.3	3,981	1,533.5	11,578	16.0	121	1.55	819	9
Oberösterreich	411.1	6,092	991.5	14,694	6.5	97	1.84	755	9
Wien	404.1	7,665	1,542.8	29,267	17.8	337	1.34	541	9
Burgenland	293.8	846	711.5	2,049	7.3	21	1.95	573	9
Niederösterreich	278.7	4,676	812.6	13,636	9.3	156	1.50	418	9
Steiermark	257.8	3,205	613.9	7,631	17.0	211	1.79	461	9
Kärnten	165.7	923	401.1	2,234	2.7	15	1.59	263	9

Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	Worst	>2.0	>150
0.0	Best	Best	Best	Best	Best	Best	0.0	0

Table of current situation in Portugal by region. Colour scale is indicated in each legend.

Region	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$\rho_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Norte	588.6	21,061	1,509.4	54,008	29.1	1,042	1.61	948	9
Lisbon	378.6	10,727	1,919.3	54,373	33.4	947	1.31	494	9
Centro	144.4	3,237	460.5	10,319	13.4	300	1.45	209	8
Algarve	119.3	525	574.1	2,526	5.7	25	1.25	149	8
Alentejo	112.2	803	341.9	2,448	5.9	42	1.05	118	8
Madeira	45.5	116	160.8	410	0.0	0	1.50	68	6
Açores	20.5	50	142.6	348	6.1	15	0.92	19	4

Colour scale								
>150	Worst	Worst	Worst	Worst	Worst	Worst	>2.0	>150
0.0	Best	Best	Best	Best	Best	Best	0.0	0

Situation and trends in other countries

Country	Reported data						Indexes		
	14-day attack rate /10 ⁵ inh.	Active cases (last 14 days)	Attack rate /10 ⁵ inh.	Cumulative cases	Mortality /10 ⁵ inh.	Cumulative deaths	$\rho_7^{(1)}$	EPG ⁽²⁾	Biocom-Cov degree
Argentina	441.6	199,574	2,470.6	1,116,596	65.8	29,730	0.96	422	9
United States of America	278.8	922,939	2,652.4	8,779,653	68.5	226,723	1.17	326	9
Colombia	214.5	109,120	2,030.6	1,033,218	60.1	30,565	1.13	242	9
Ukraine	194.4	85,014	813.1	355,601	15.1	6,590	1.05	205	9
Israel	170.4	14,750	3,604.9	312,024	28.7	2,483	0.69	118	8
Brazil	153.4	326,013	2,559.1	5,439,641	74.3	157,946	1.02	157	8
Russia	151.8	221,596	1,060.6	1,547,774	18.2	26,589	1.08	164	8
Iraq	125.7	50,550	1,143.4	459,908	26.7	10,724	0.99	125	8
Peru	116.8	38,523	2,706.8	892,497	103.9	34,257	0.97	113	7
Qatar	114.0	3,284	4,570.9	131,689	8.0	230	1.09	124	8
Belarus	106.7	10,085	1,001.2	94,609	10.2	965	1.20	128	8
Chile	105.9	20,245	2,639.3	504,525	73.4	14,026	0.99	104	7
Canada	95.4	36,006	590.6	222,887	26.5	10,001	1.09	104	7
Iran	87.4	73,435	692.7	581,824	39.6	33,299	1.26	110	7
Ecuador	85.1	15,021	925.0	163,192	71.3	12,588	1.41	120	7
India	55.5	750,933	590.6	7,990,322	8.9	120,010	0.87	48	6
Mexico	45.5	58,651	699.0	901,268	69.7	89,814	1.78	81	6
Philippines	25.9	28,431	340.5	373,144	6.4	7,053	0.81	21	4
Indonesia	20.4	55,832	144.9	396,454	4.9	13,512	0.98	20	4
Saudi Arabia	15.9	5,542	992.8	345,631	15.3	5,329	0.95	15	3
Pakistan	4.4	9,737	149.5	330,200	3.1	6,759	1.28	6	2

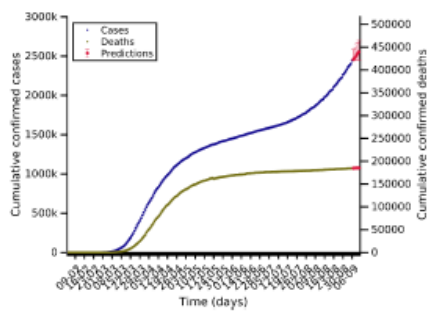
Colour scale								
>150.0	Worst	Worst	Worst	Worst	Worst	Worst	>2.0	>150
0.0	Best	Best	Best	Best	Best	Best	0.0	0

⁽¹⁾ ρ_7 is the average of 7 consecutive ρ , but can still fluctuate. ⁽²⁾ EPG stands for Effective Growth Potential, which is the product of reported cumulative incidence of last 14 days per 10⁵ inhabitants by ρ_7 (empiric reproduction number). Biocom-Cov degree is an epidemiological situation scale based on the level of last week's mean daily new cases (<https://upcommons.upc.edu/handle/2117/189661>, <https://upcommons.upc.edu/handle/2117/189808>).

Legend: Countries' reports details

Reported cumulative cases (blue) and deaths (brown), together with predictions (red)

EU+EFTA+UK 06-09-2020. Pop: 2632.4M. Cumulative incidence: 93/10⁵

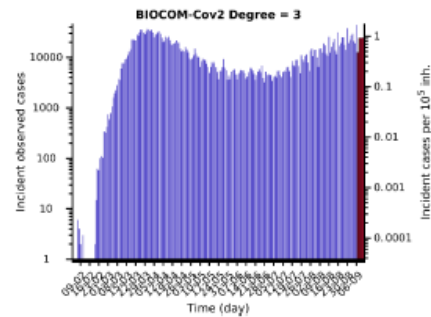
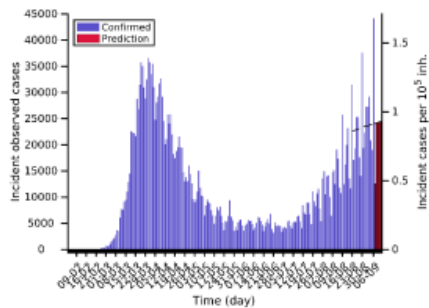


Predictions for next days		
Day	Number of cases	95% confidence interval
07-09-2020	2458068 (+125771)	[2445493 - 2583840]
09-09-2020	2568527 (+242758)	[2443493 - 2633890]
11-09-2020	2553558 (+244355)	[2445493 - 2799209]

Current indicators		
R_{eff}	RPI	CFR
1.3	14	1.17 %

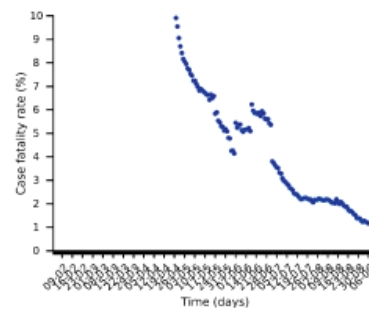
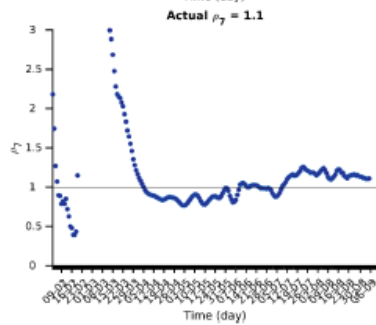
Predictions and indicators

Incident observed cases and predictions.



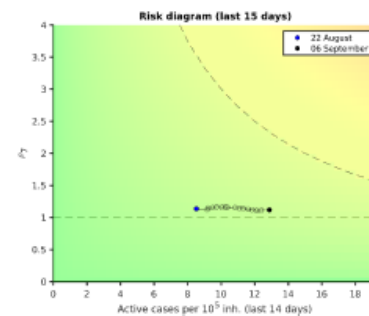
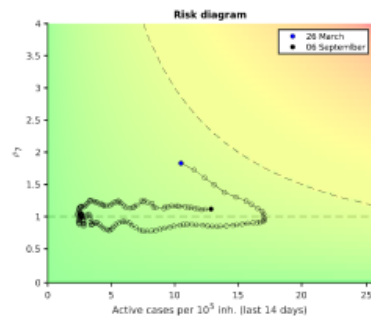
Incident observed cases in a logarithmic scale, with Biocom-Cov degree.

Evolution of empiric reproduction number ρ_T



Case fatality rate

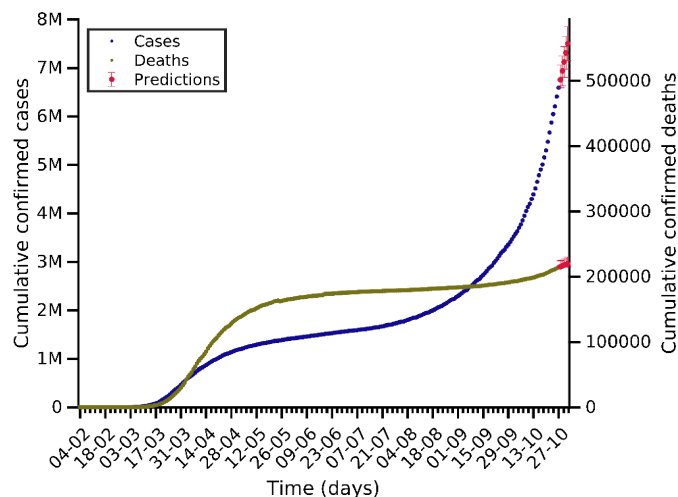
Risk diagram



Risk diagram of last 15 days

**(1) Analysis and prediction of COVID-19
for EU+EFTA+UK**

EU+EFTA+UK 27-10-2020. Pop: 527.9M. Cumulative incidence: 1249/10⁵

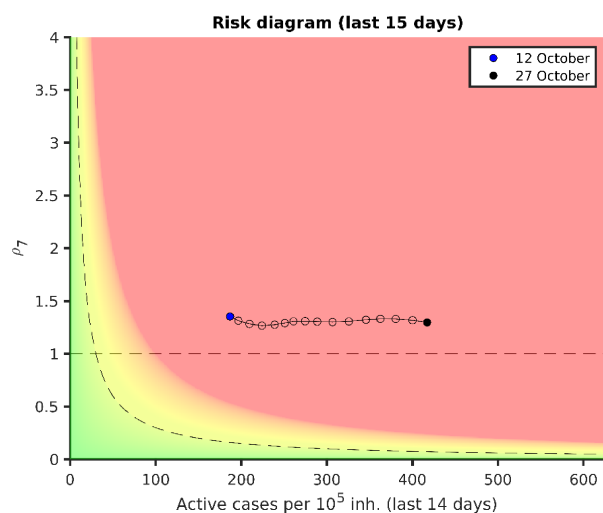
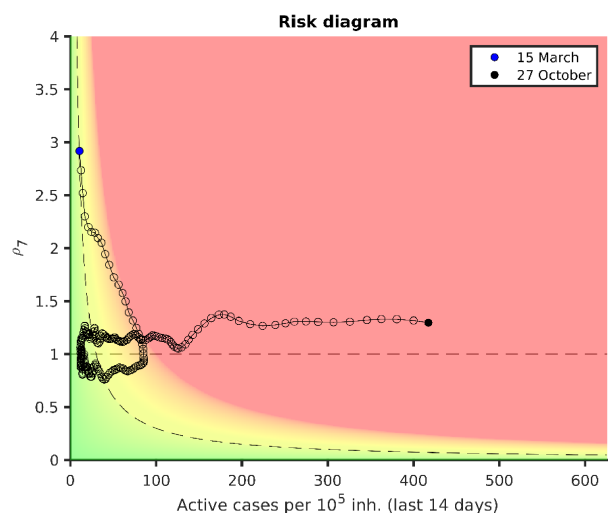
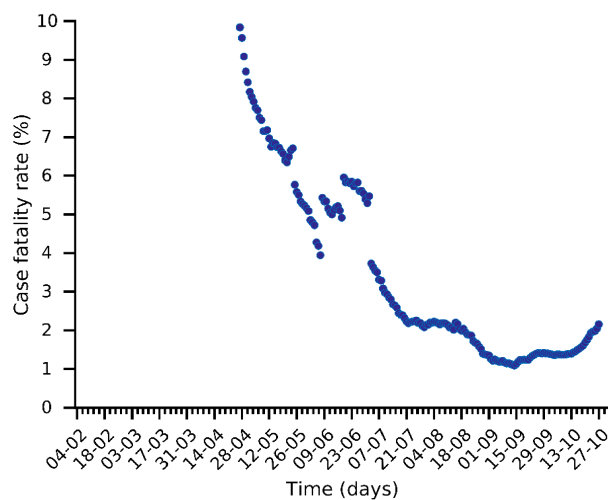
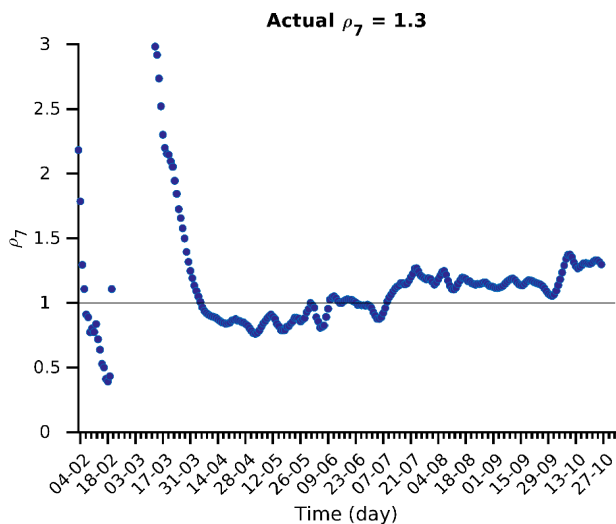
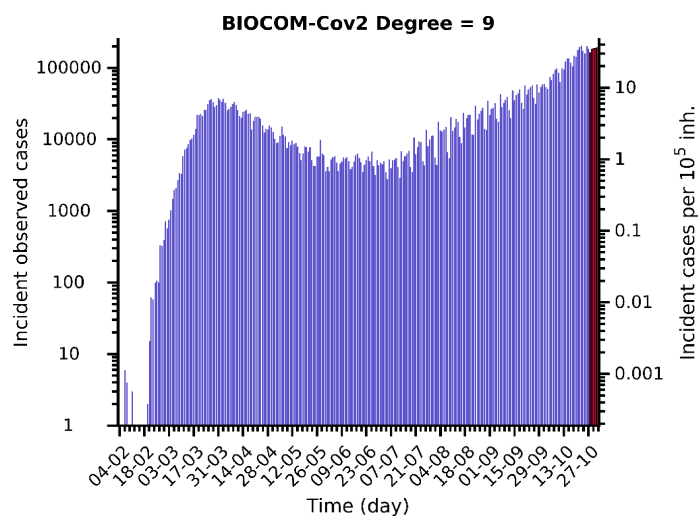
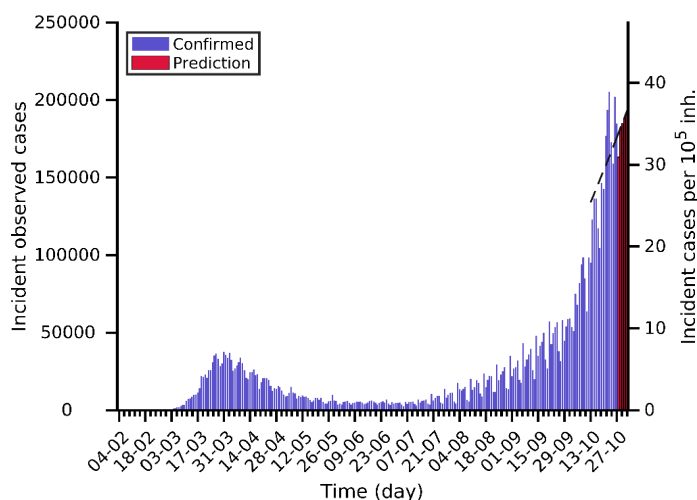


Predictions for next days

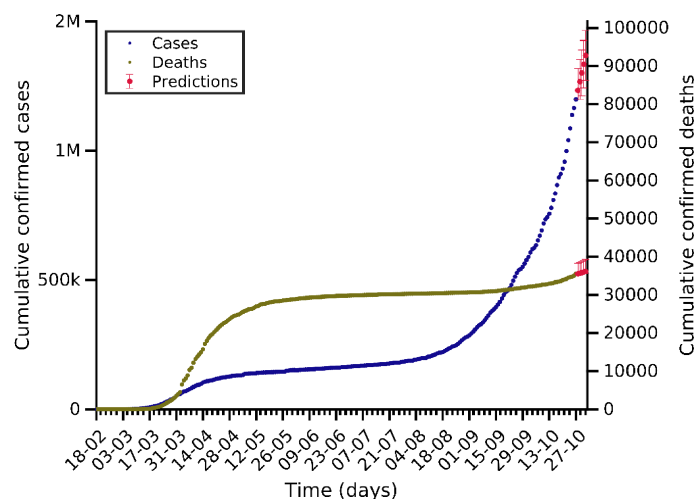
Day	Number of cases	95% Confidence Interval
28-10-2020	6756836 (+163344)	[6593492 - 7060593]
30-10-2020	7123993 (+185127)	[6805501 - 7442485]
01-11-2020	7503554 (+191334)	[7150947 - 7856162]

Current indicators

A ₁₄	EPG	CFR
417	541	2.16 %



France 27-10-2020. Pop: 65.3M. Cumulative incidence: 1836/10⁵

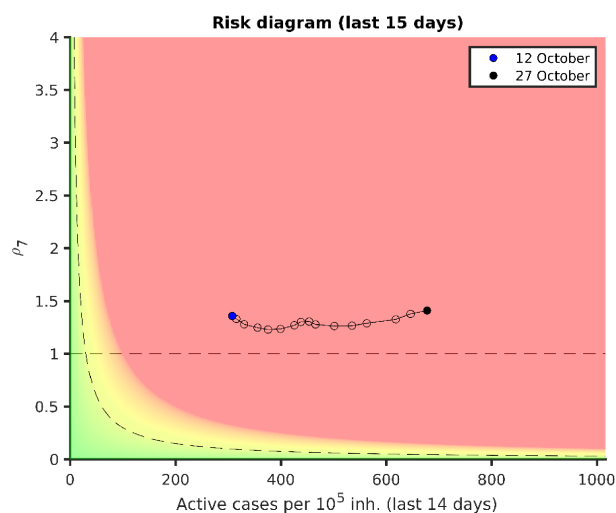
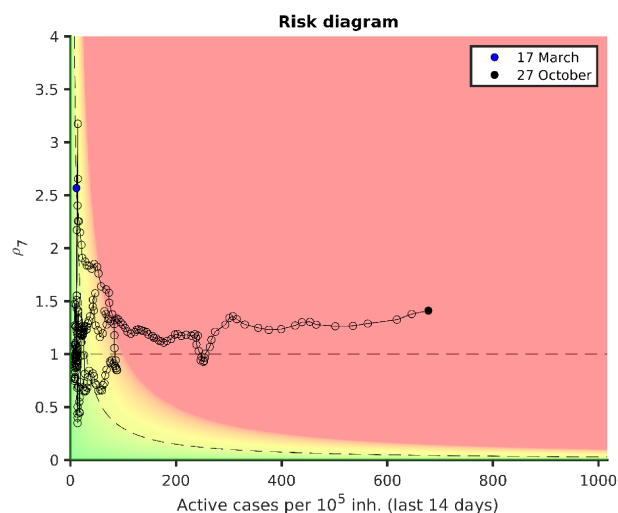
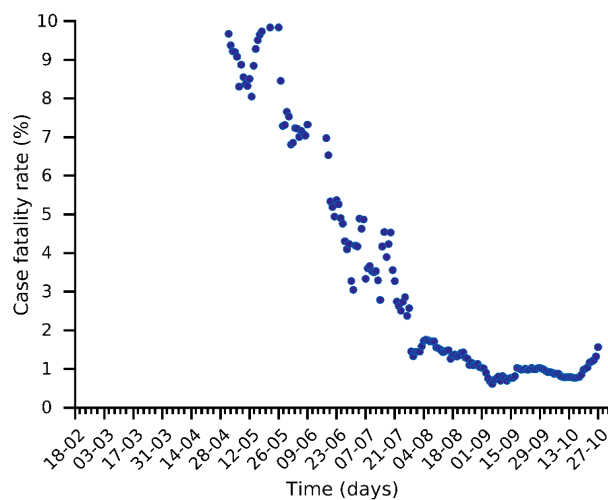
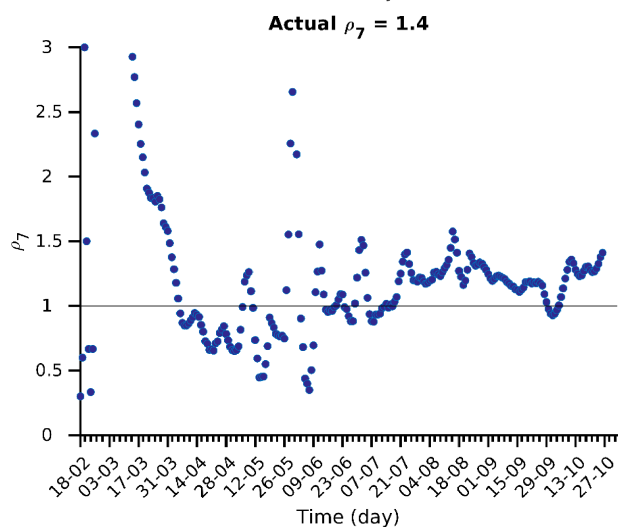
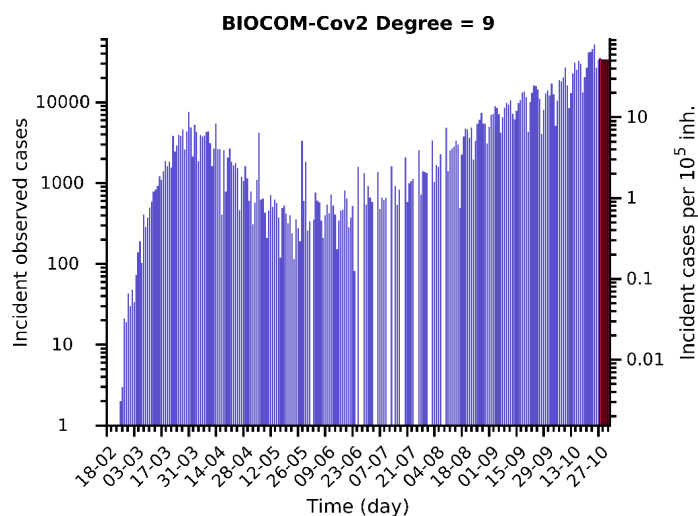
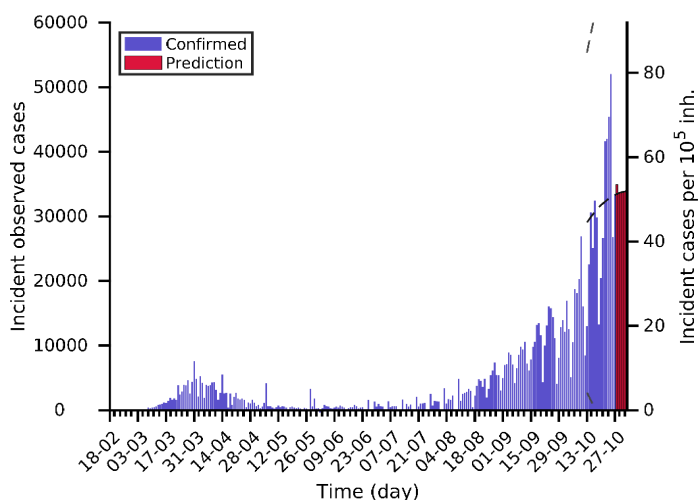


Predictions for next days

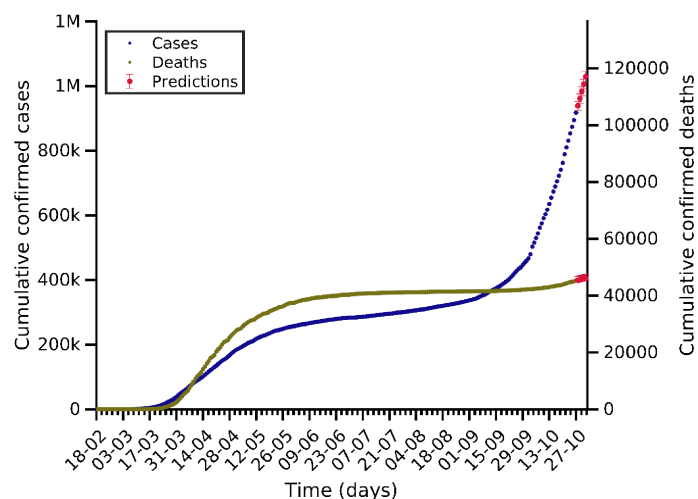
Day	Number of cases	95% Confidence Interval
28-10-2020	1233644 (+34949)	[1198695 - 1318330]
30-10-2020	1300938 (+33698)	[1212490 - 1389386]
01-11-2020	1368556 (+33839)	[1271767 - 1465345]

Current indicators

A ₁₄	EPG	CFR
677	956	1.56 %



UK 27-10-2020. Pop: 67.9M. Cumulative incidence: 1352/10⁵

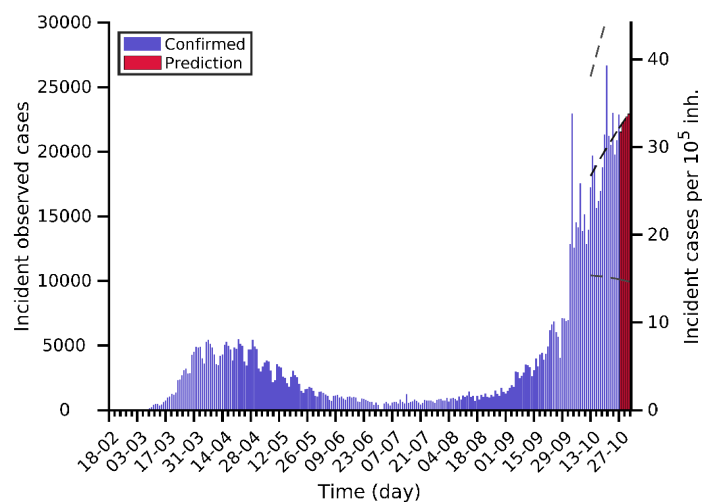


Predictions for next days

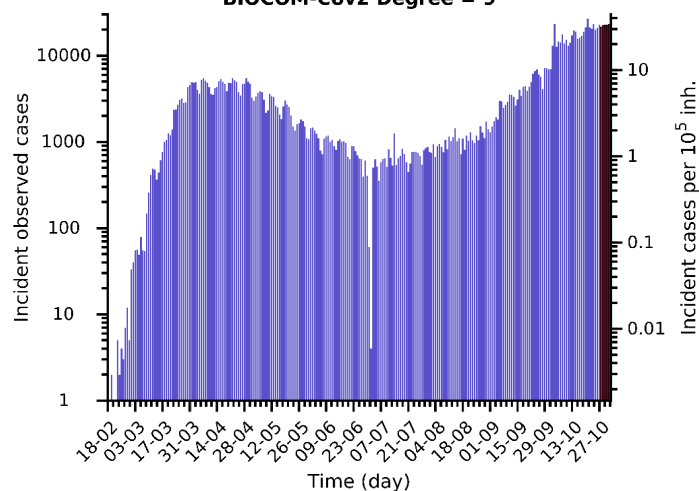
Day	Number of cases	95% Confidence Interval
28-10-2020	939090 (+21515)	[925294 - 952887]
30-10-2020	983846 (+22490)	[969419 - 998273]
01-11-2020	1029481 (+22925)	[1013629 - 1045333]

Current indicators

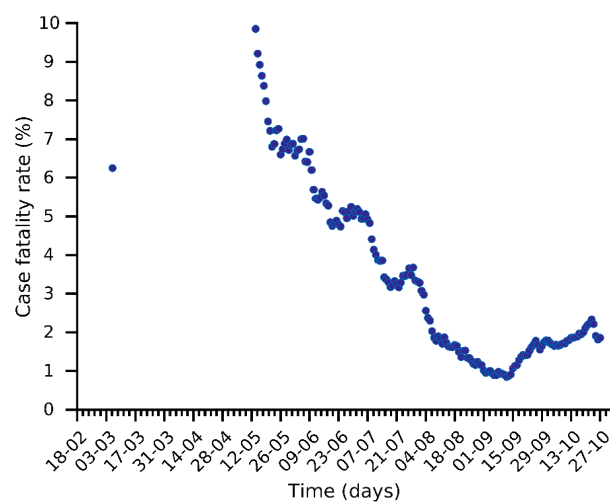
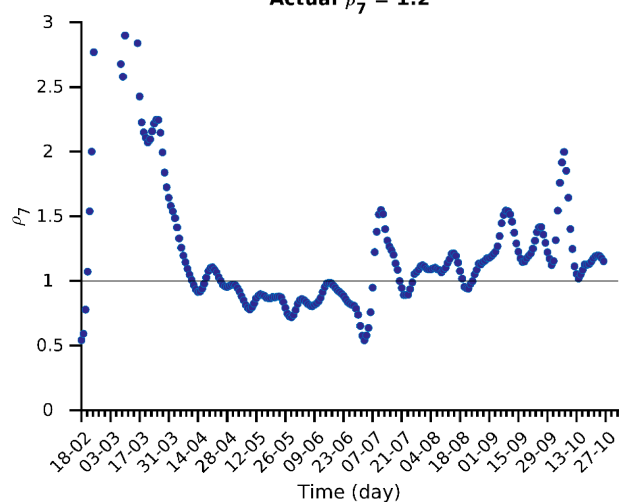
A ₁₄	EPG	CFR
416	480	1.85 %



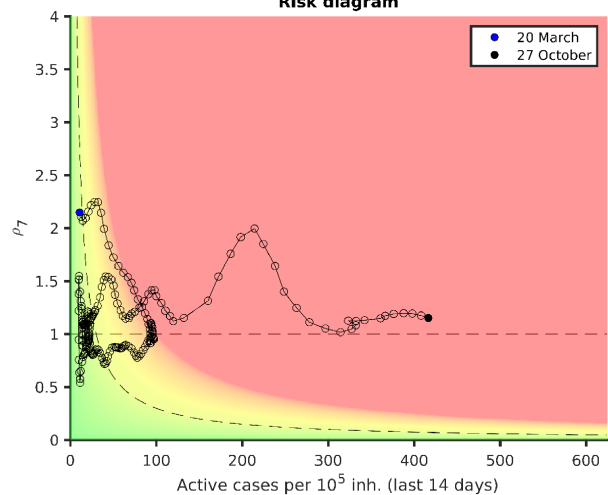
BIOCOM-Cov2 Degree = 9



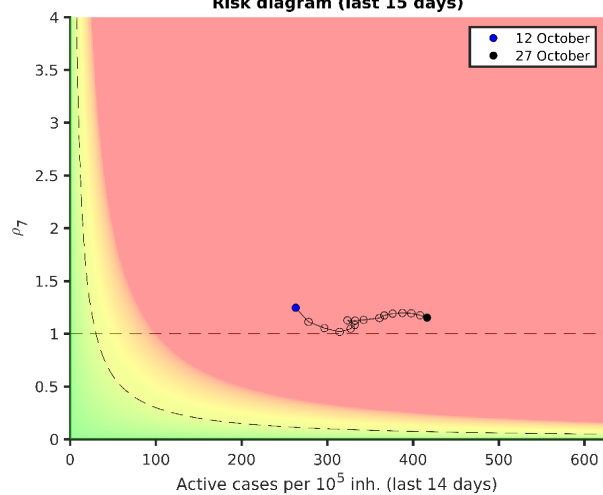
Actual $\rho_7 = 1.2$



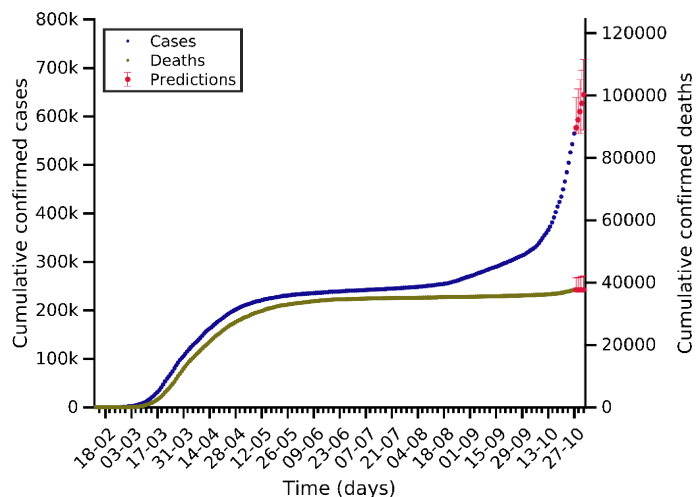
Risk diagram



Risk diagram (last 15 days)



Italy 27-10-2020. Pop: 60.5M. Cumulative incidence: 934/10⁵

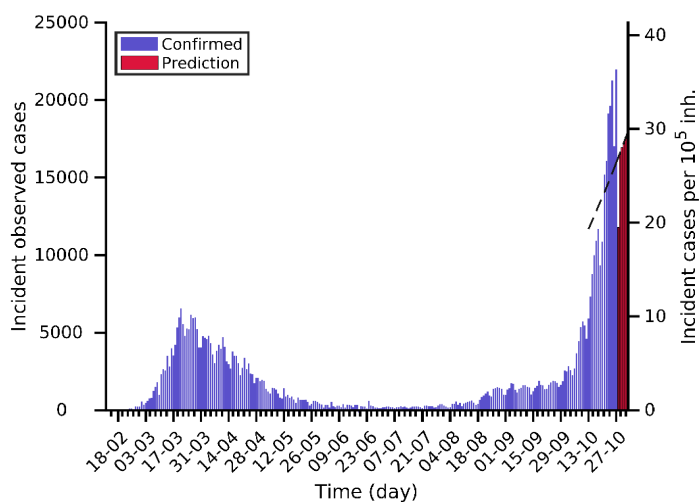


Predictions for next days

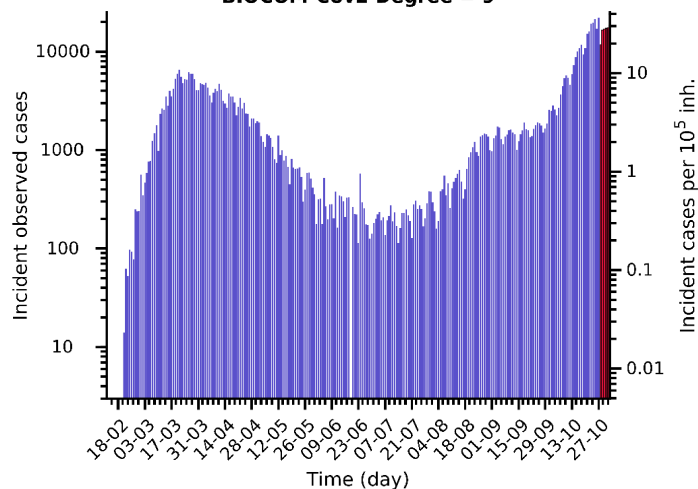
Day	Number of cases	95% Confidence Interval
28-10-2020	576570 (+11792)	[564778 - 638876]
30-10-2020	610102 (+16932)	[564778 - 675511]
01-11-2020	644972 (+17603)	[572298 - 717645]

Current indicators

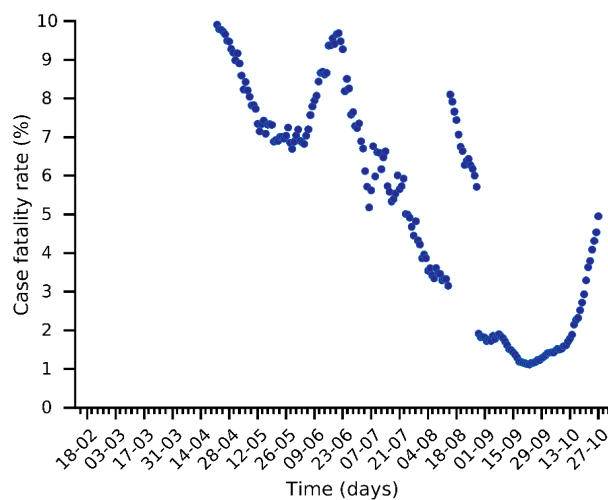
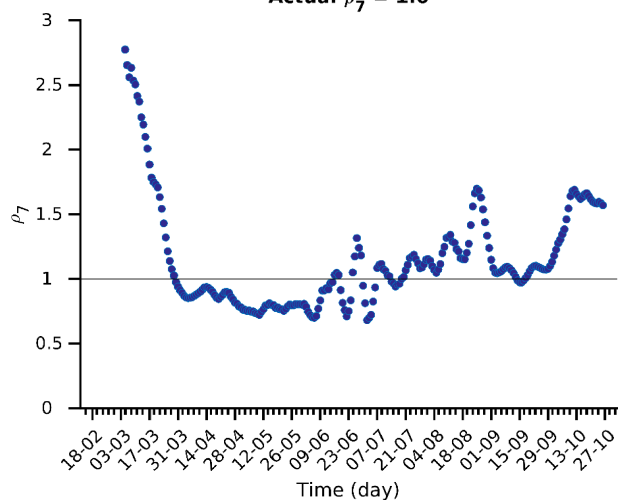
A ₁₄	EPG	CFR
330	518	4.95 %



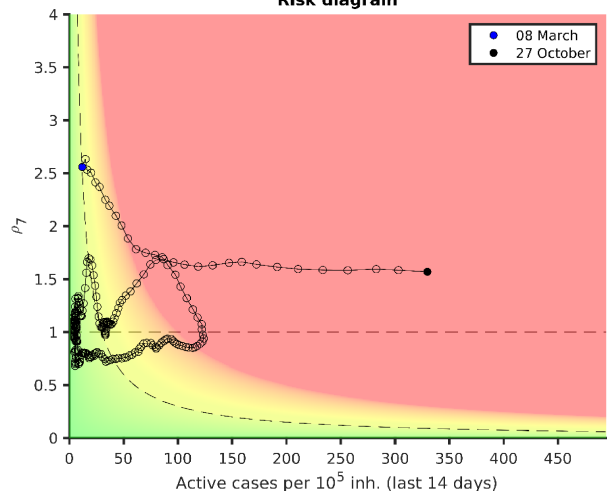
BIOCOM-Cov2 Degree = 9



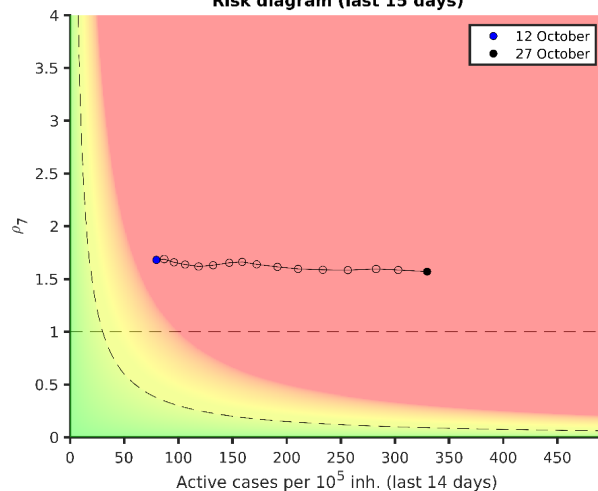
Actual $\rho_7 = 1.6$



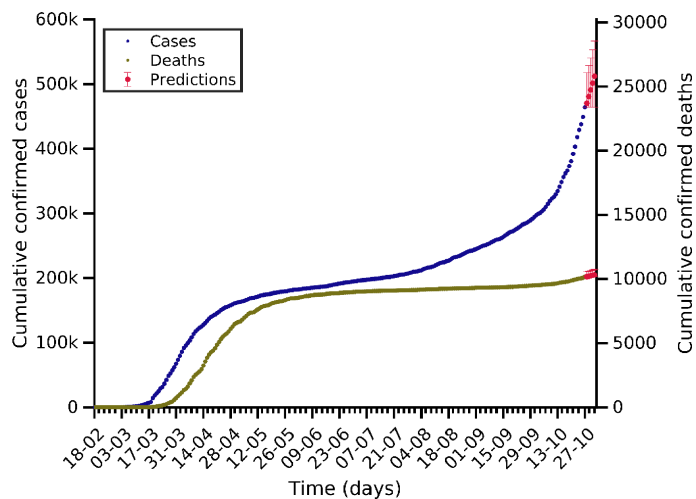
Risk diagram



Risk diagram (last 15 days)



Germany 27-10-2020. Pop: 83.8M. Cumulative incidence: 554/10⁵

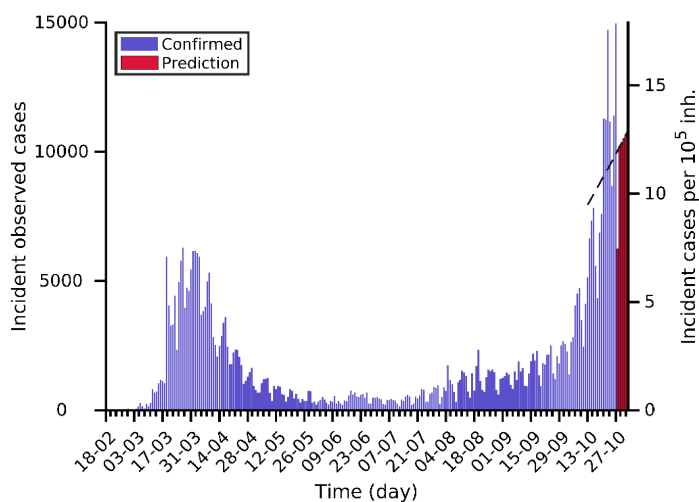


Predictions for next days

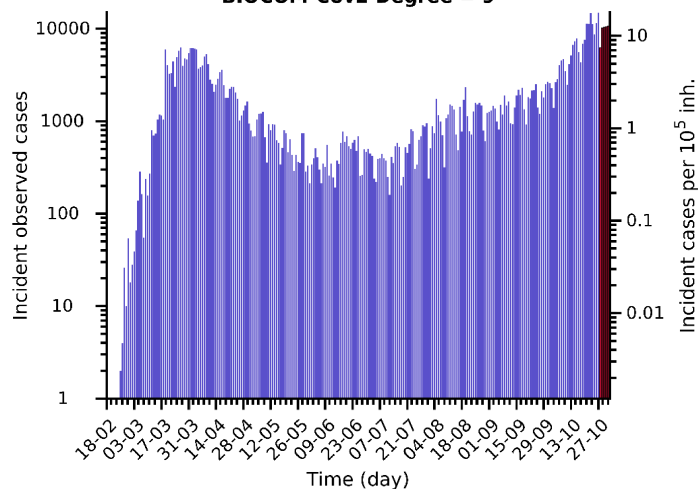
Day	Number of cases	95% Confidence Interval
28-10-2020	470480 (+6241)	[464239 - 517707]
30-10-2020	491051 (+10359)	[464239 - 540480]
01-11-2020	512215 (+10656)	[464239 - 566677]

Current indicators

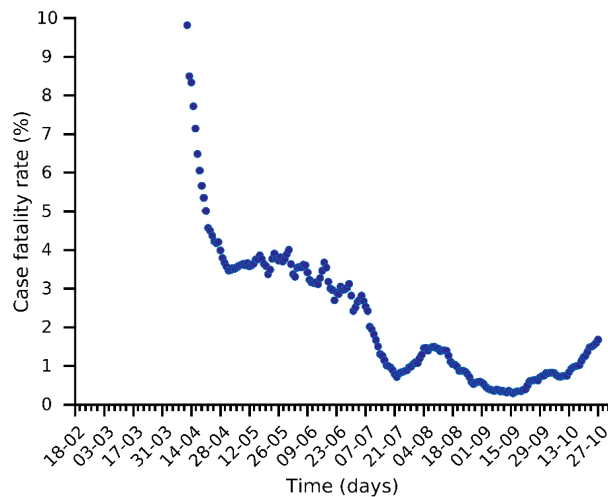
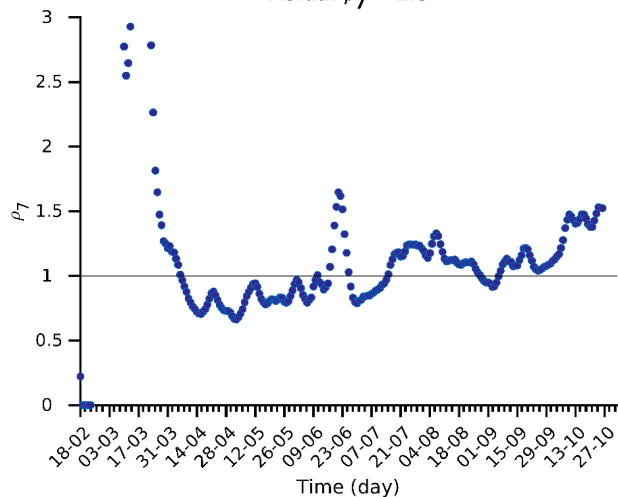
A ₁₄	EPG	CFR
155	236	1.68 %



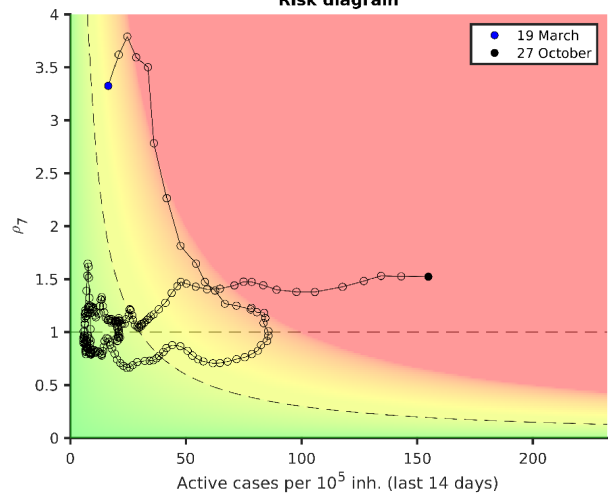
BIOCOM-Cov2 Degree = 9



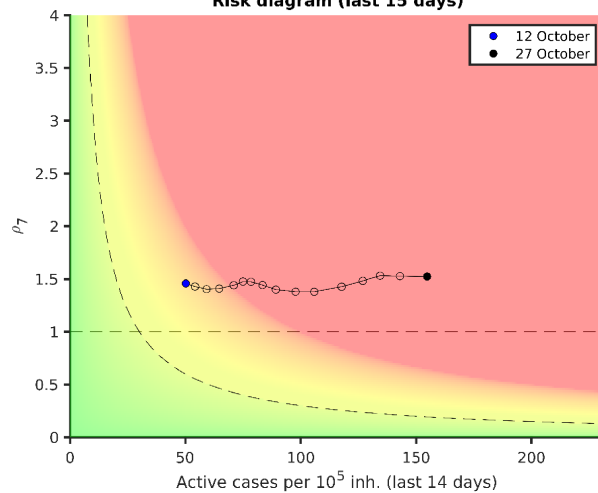
Actual $\rho_7 = 1.5$



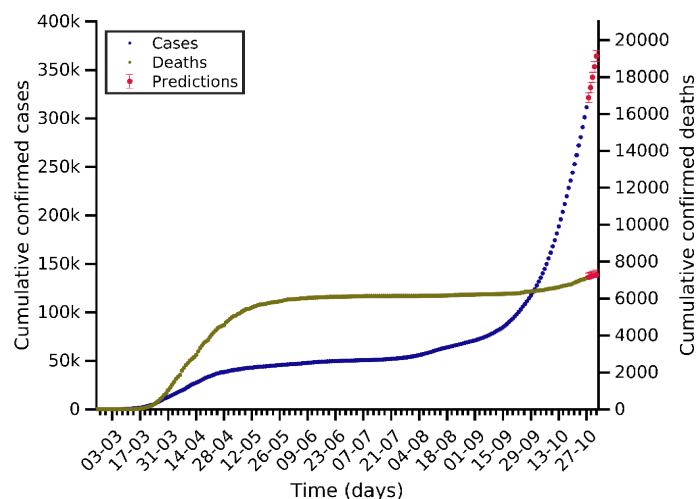
Risk diagram



Risk diagram (last 15 days)



Netherlands 27-10-2020. Pop: 17.1M. Cumulative incidence: 1818/10⁵

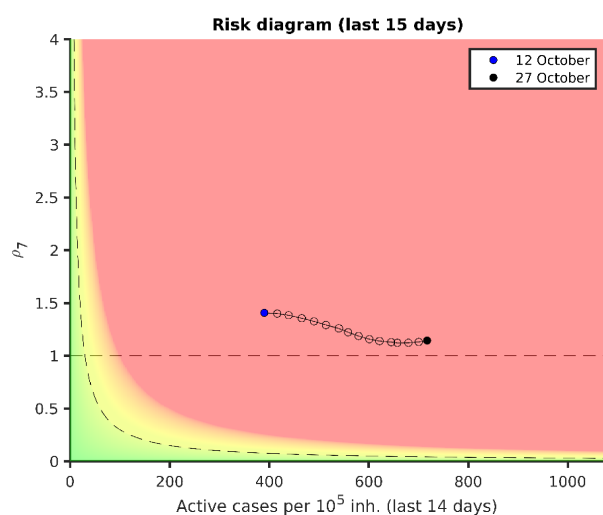
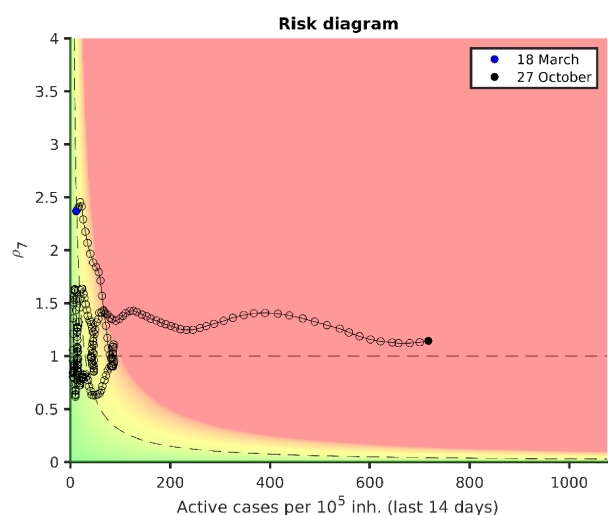
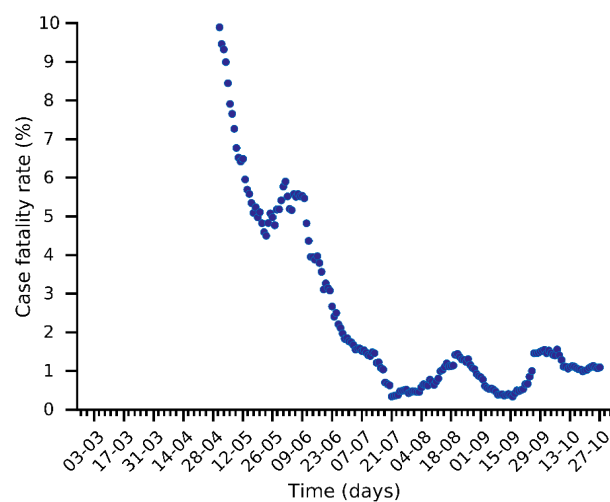
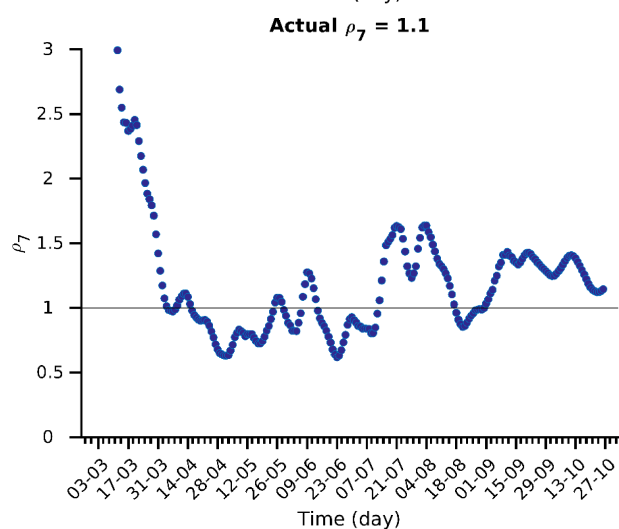
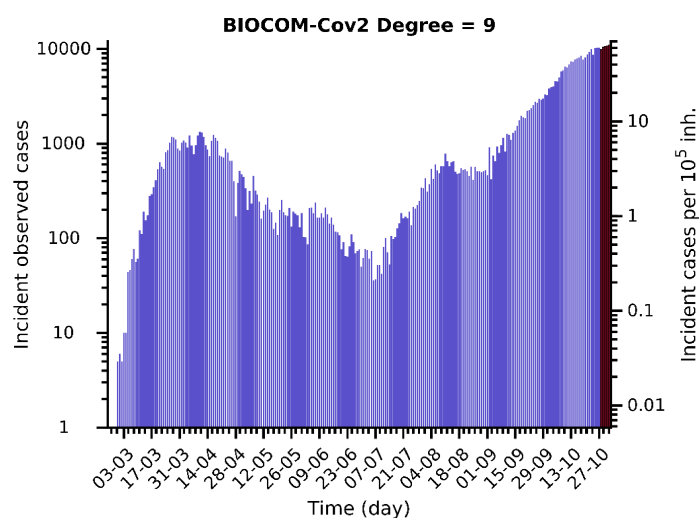
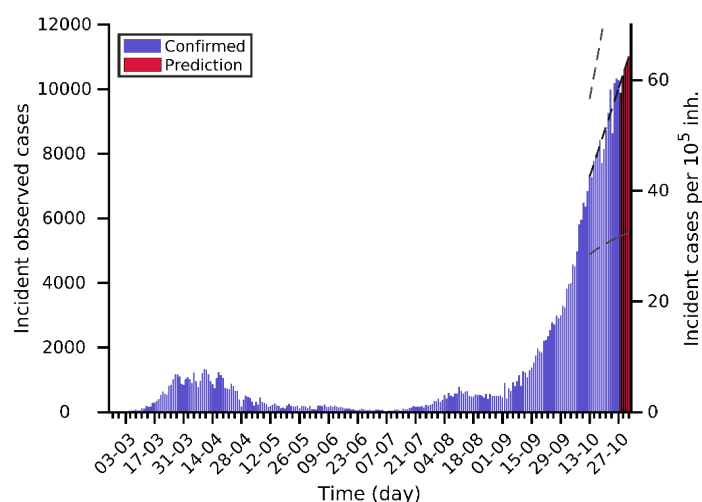


Predictions for next days

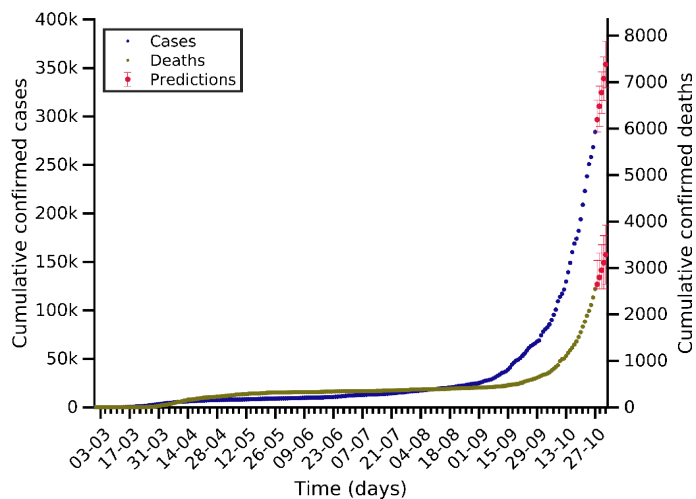
Day	Number of cases	95% Confidence Interval
28-10-2020	321423 (+9891)	[316565 - 326280]
30-10-2020	342461 (+10616)	[337359 - 347562]
01-11-2020	364274 (+11003)	[358602 - 369946]

Current indicators

A ₁₄	EPG	CFR
717	821	1.09 %



Czech Rep 27-10-2020. Pop: 10.7M. Cumulative incidence: 2652/10⁵

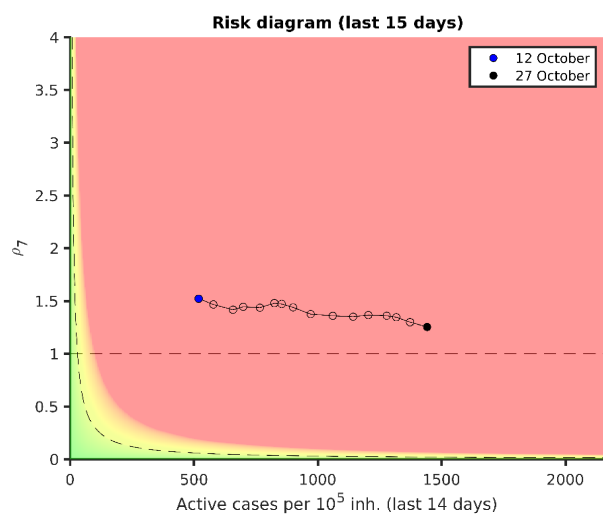
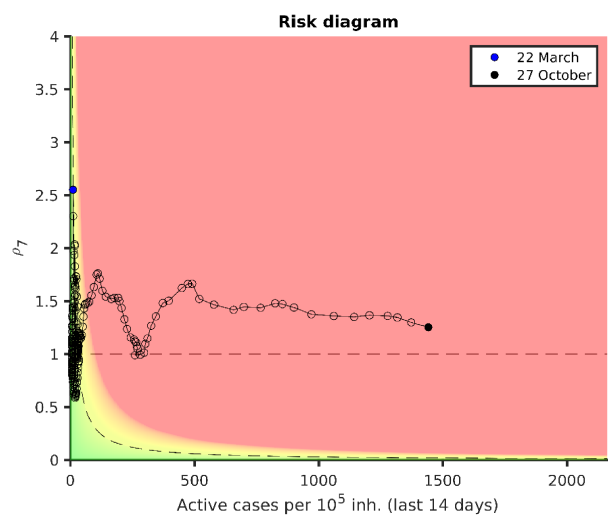
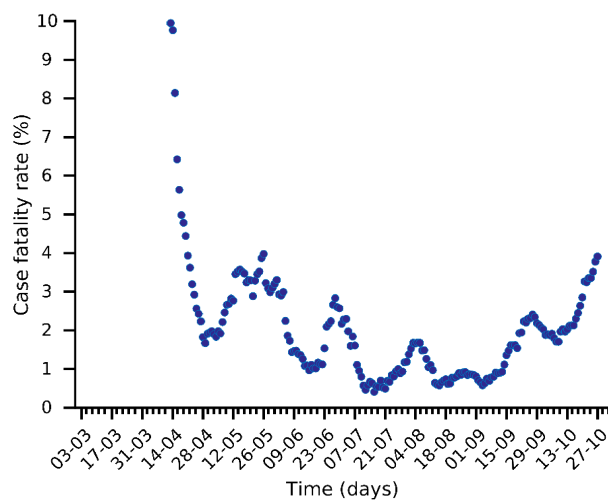
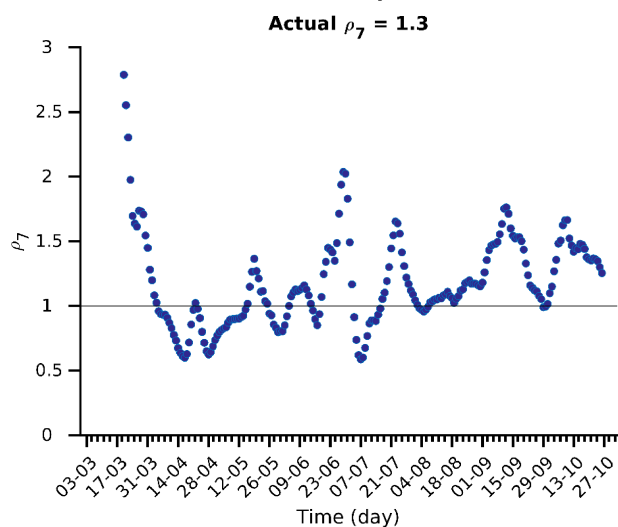
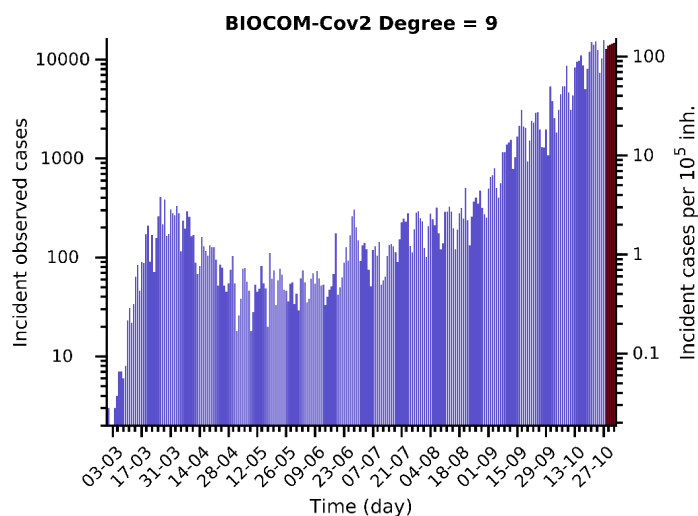
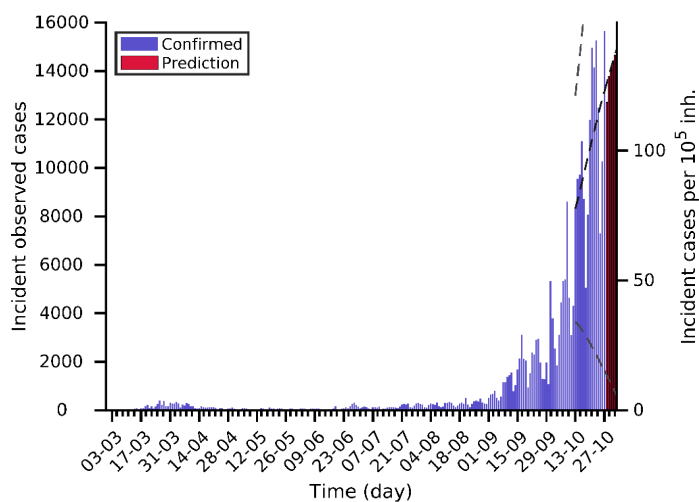


Predictions for next days

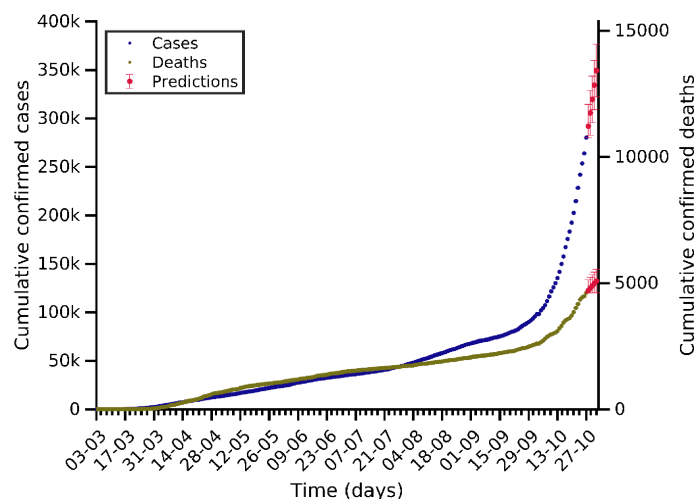
Day	Number of cases	95% Confidence Interval
28-10-2020	296742 (+12709)	[284033 - 317057]
30-10-2020	324623 (+14089)	[303201 - 346045]
01-11-2020	353657 (+14657)	[329594 - 377720]

Current indicators

A ₁₄	EPG	CFR
1441	1807	3.91 %



Poland 27-10-2020. Pop: 37.8M. Cumulative incidence: 740/10⁵

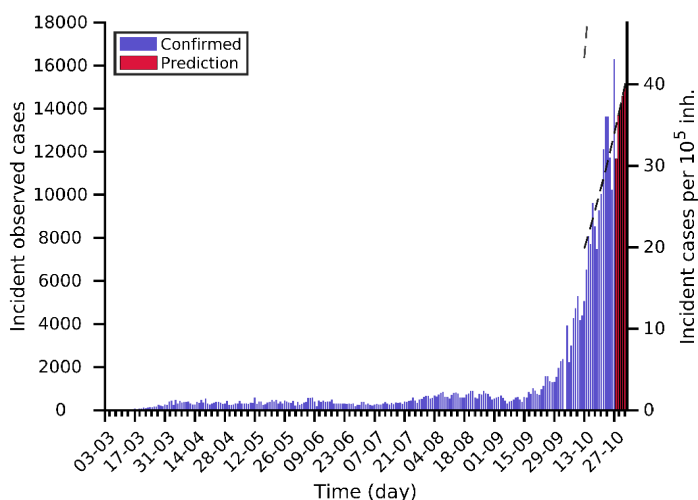


Predictions for next days

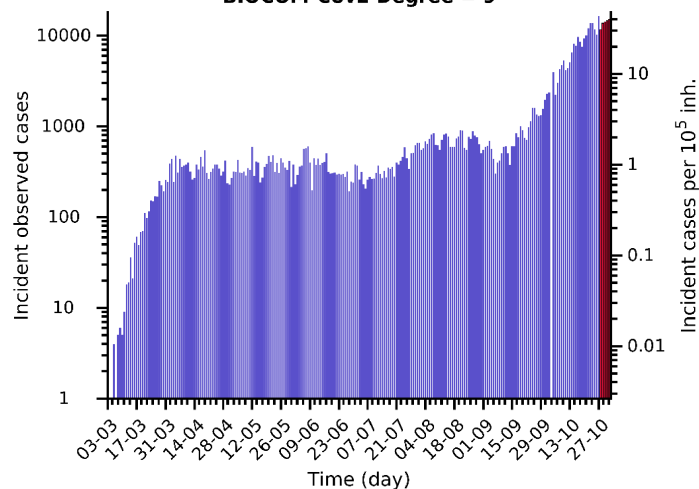
Day	Number of cases	95% Confidence Interval
28-10-2020	291906 (+11677)	[280229 - 314648]
30-10-2020	319744 (+14140)	[295685 - 343803]
01-11-2020	349374 (+15041)	[322062 - 376685]

Current indicators

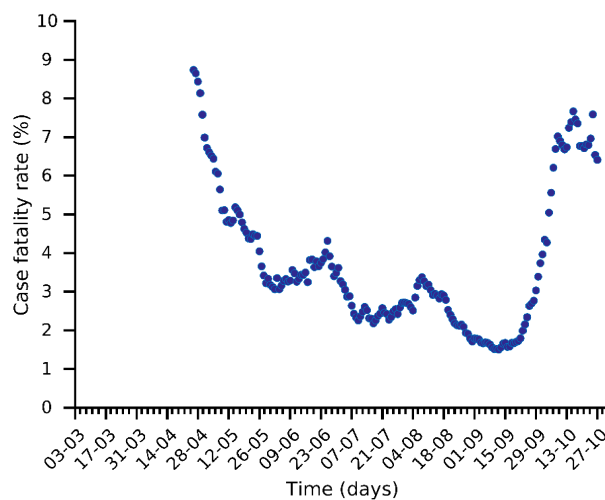
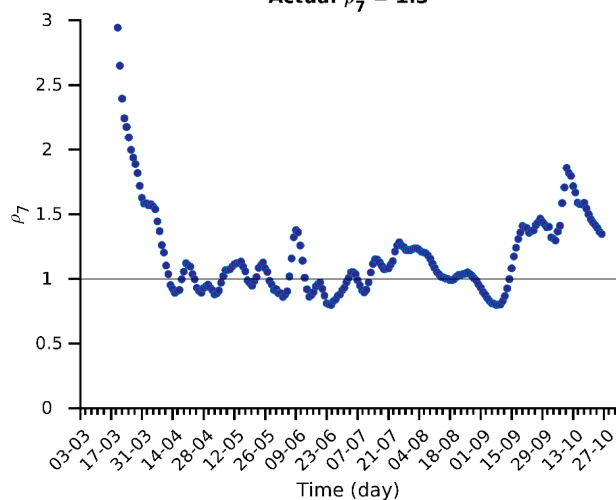
A ₁₄	EPG	CFR
383	516	6.41 %



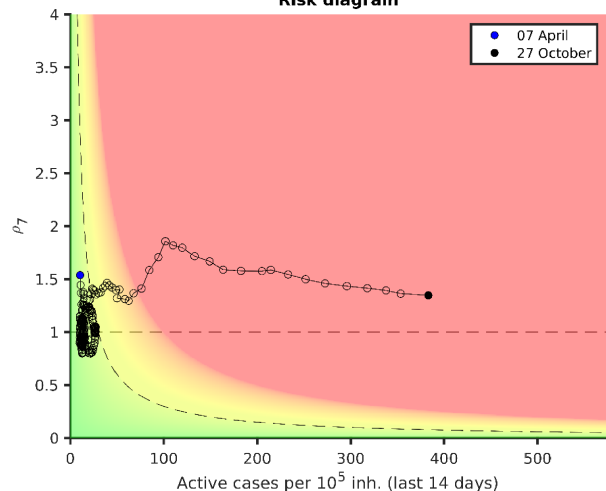
BIOCOM-Cov2 Degree = 9



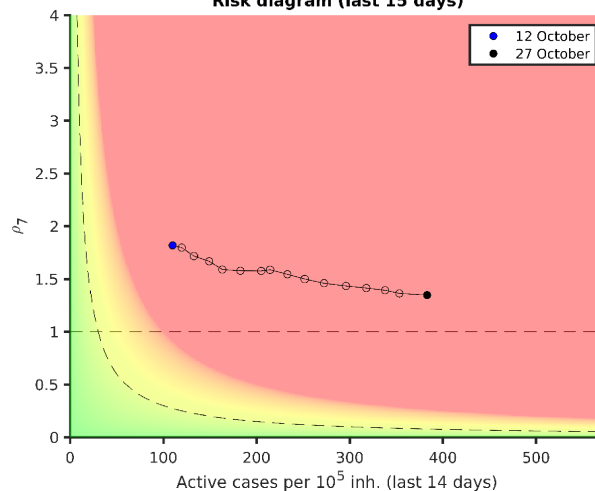
Actual $\rho_7 = 1.3$



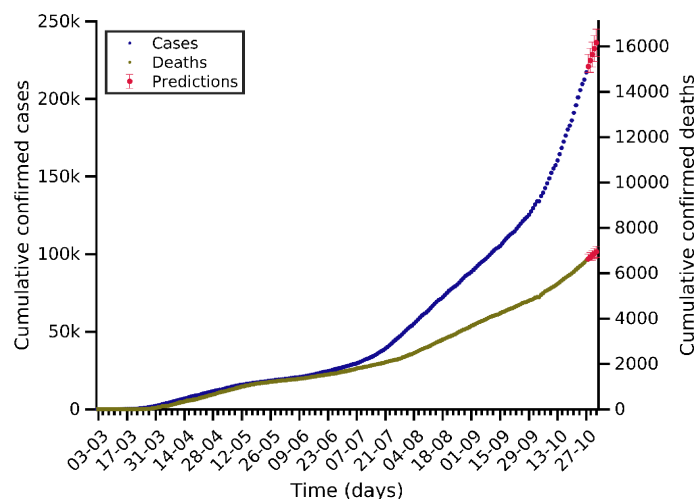
Risk diagram



Risk diagram (last 15 days)



Romania 27-10-2020. Pop: 19.2M. Cumulative incidence: 1129/10⁵

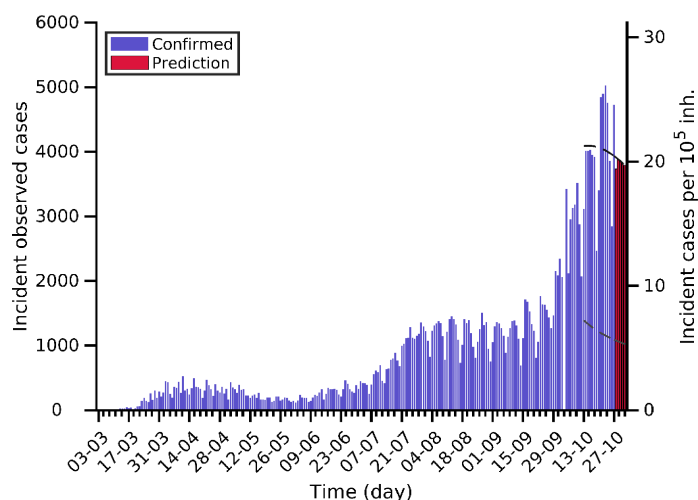


Predictions for next days

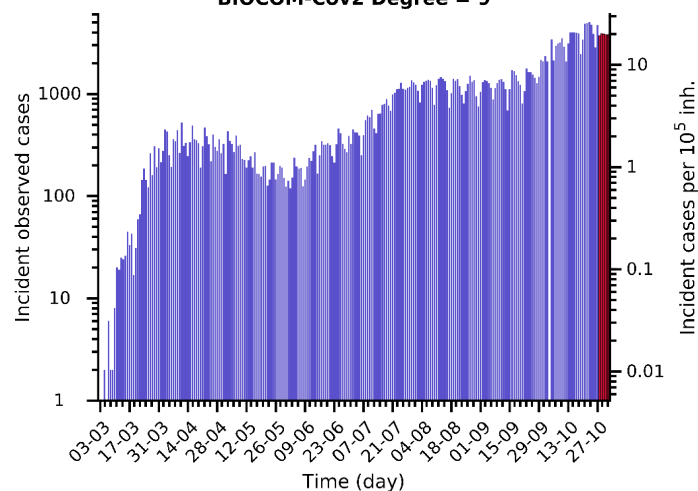
Day	Number of cases	95% Confidence Interval
28-10-2020	220949 (+3733)	[217216 - 228716]
30-10-2020	228686 (+3854)	[220612 - 236760]
01-11-2020	236304 (+3793)	[227578 - 245030]

Current indicators

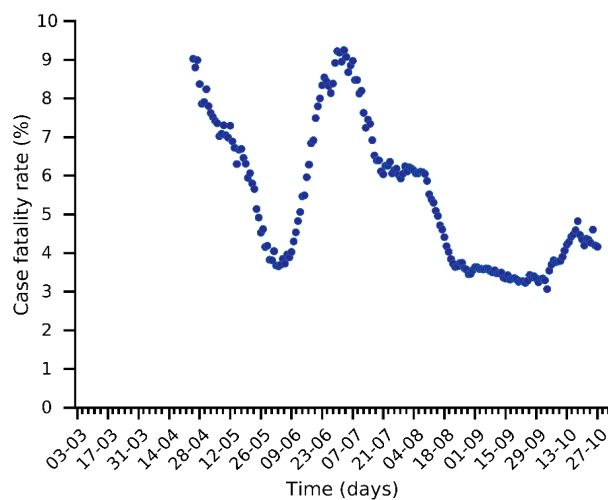
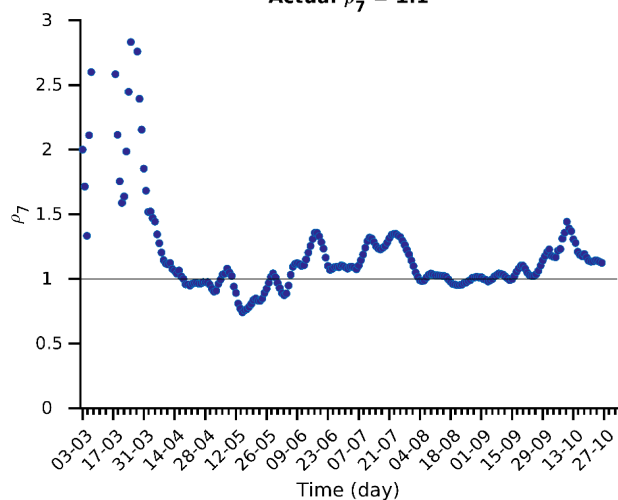
A ₁₄	EPG	CFR
295	332	4.16 %



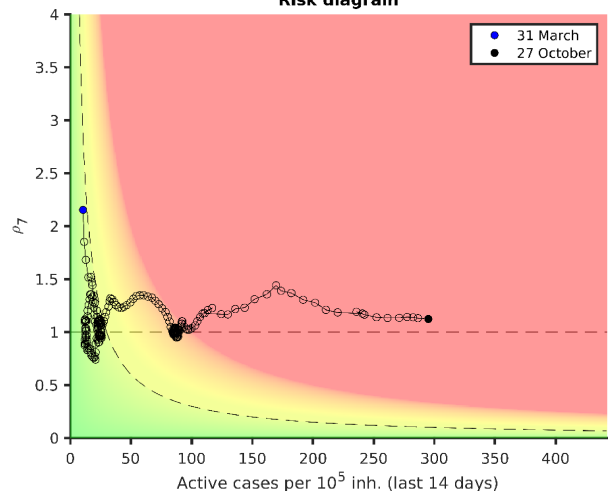
BIOCOM-Cov2 Degree = 9



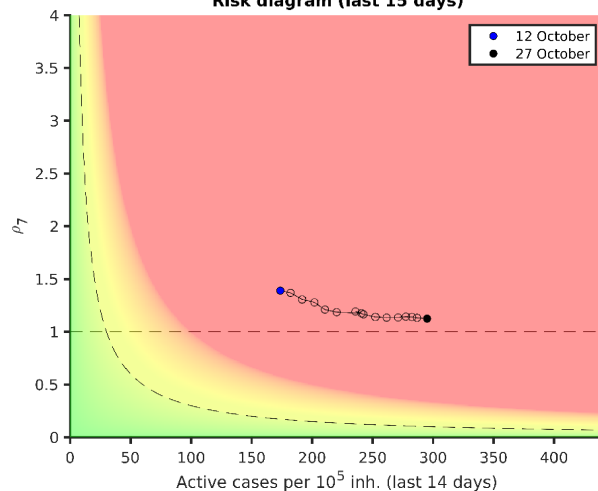
Actual $\rho_7 = 1.1$



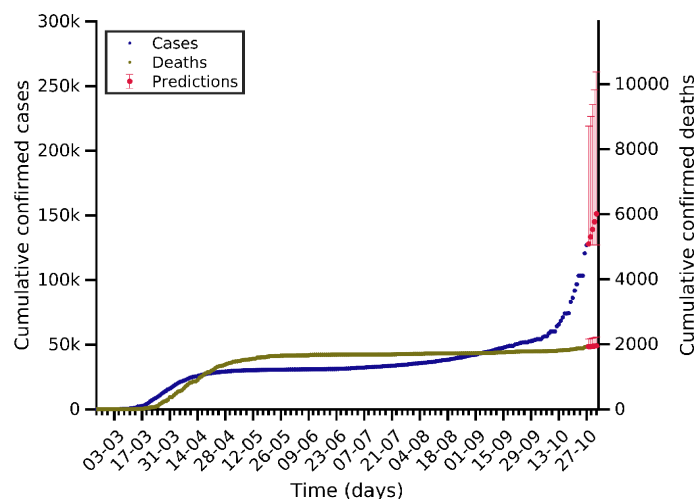
Risk diagram



Risk diagram (last 15 days)



Switzerland 27-10-2020. Pop: 8.7M. Cumulative incidence: 1468/10⁵

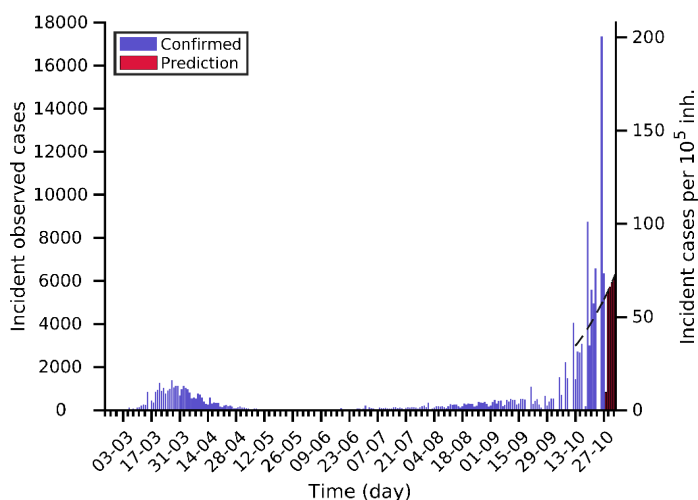


Predictions for next days

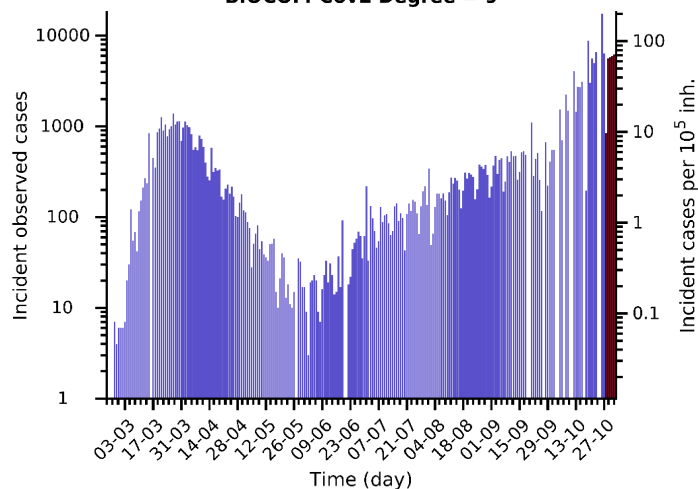
Day	Number of cases	95% Confidence Interval
28-10-2020	127872 (+830)	[127042 - 219116]
30-10-2020	139110 (+5720)	[127042 - 235697]
01-11-2020	151182 (+6143)	[127042 - 261093]

Current indicators

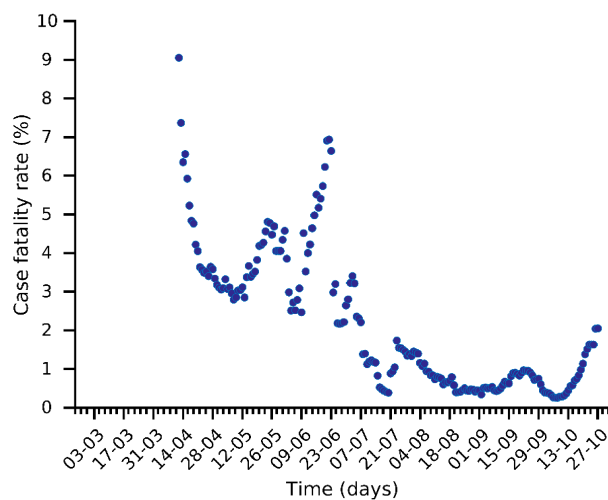
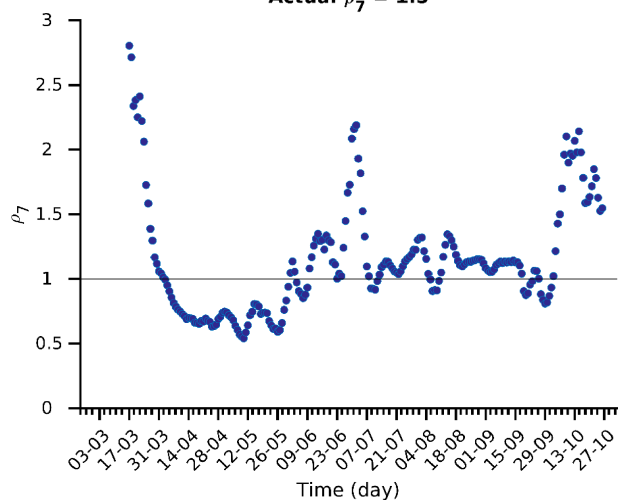
A ₁₄	EPG	CFR
708	1096	2.05 %



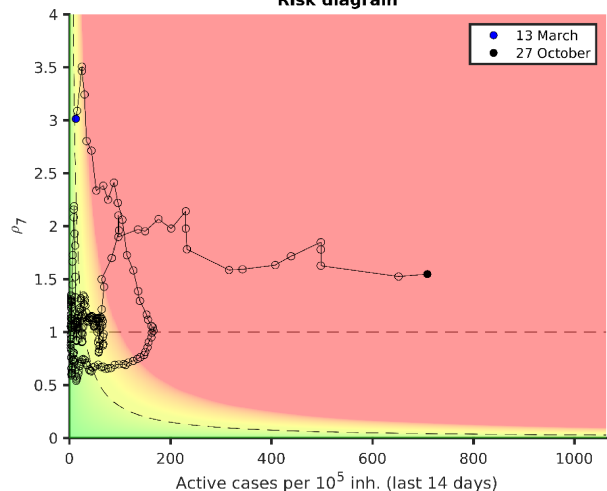
BIOCOM-Cov2 Degree = 9



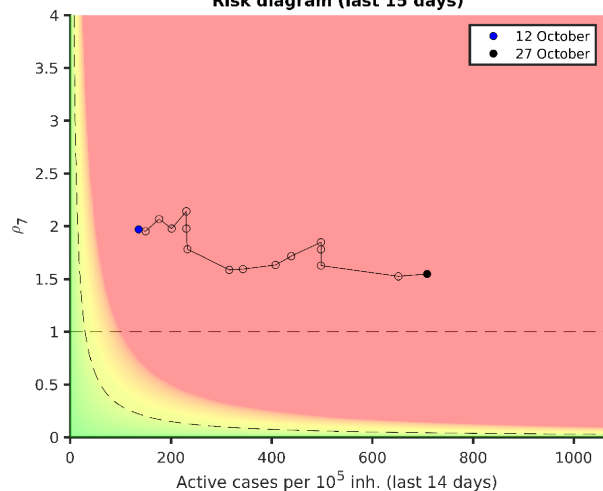
Actual $\rho_7 = 1.5$



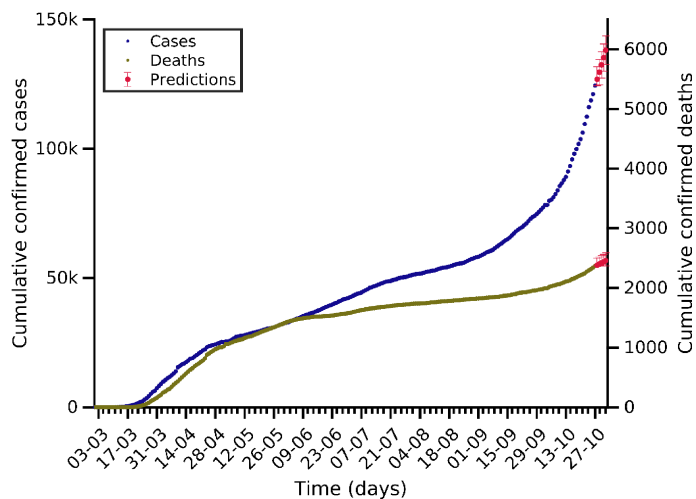
Risk diagram



Risk diagram (last 15 days)



Portugal 27-10-2020. Pop: 10.2M. Cumulative incidence: 1220/10⁵

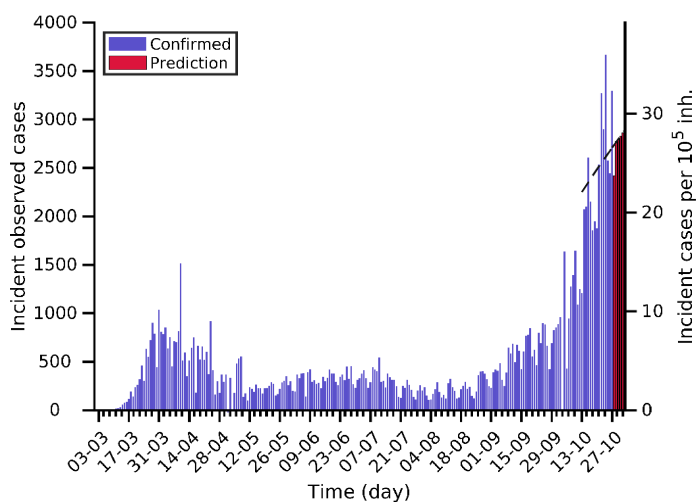


Predictions for next days

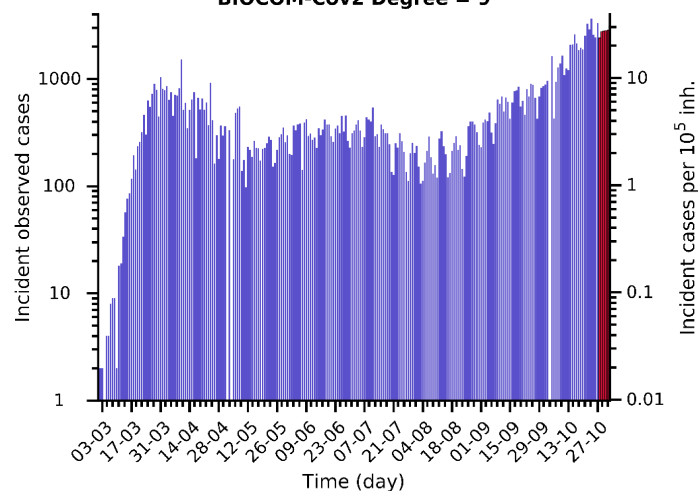
Day	Number of cases	95% Confidence Interval
28-10-2020	126848 (+2416)	[124432 - 131683]
30-10-2020	132418 (+2800)	[127362 - 137474]
01-11-2020	138109 (+2860)	[132554 - 143664]

Current indicators

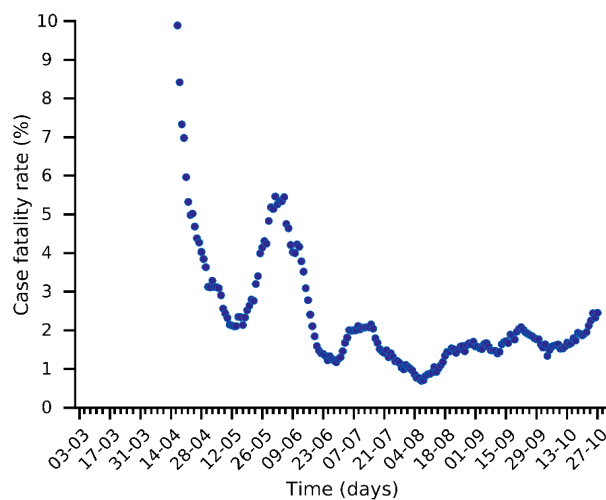
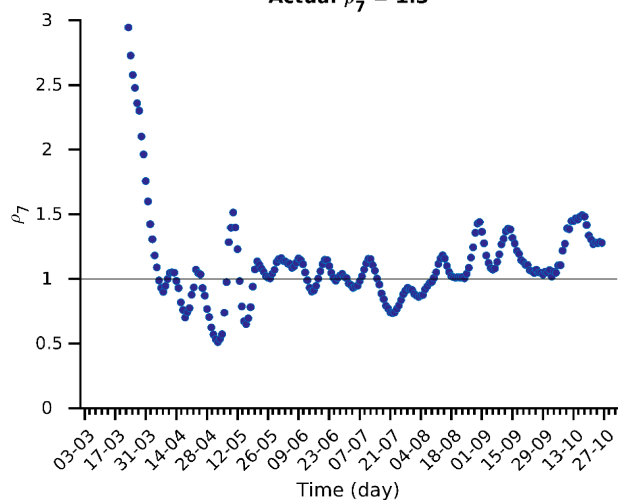
A ₁₄	EPG	CFR
346	443	2.45 %



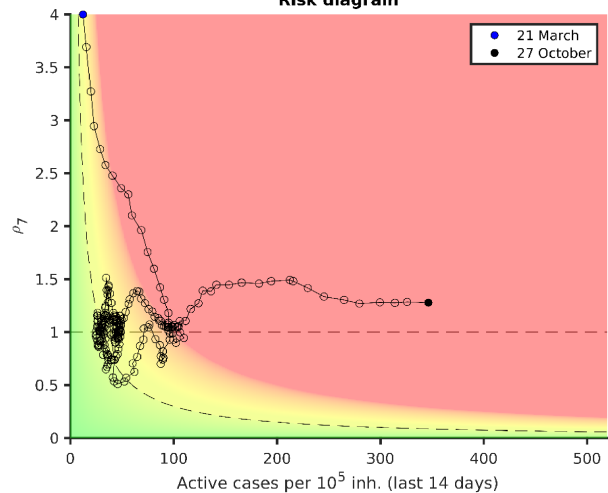
BIOCOM-Cov2 Degree = 9



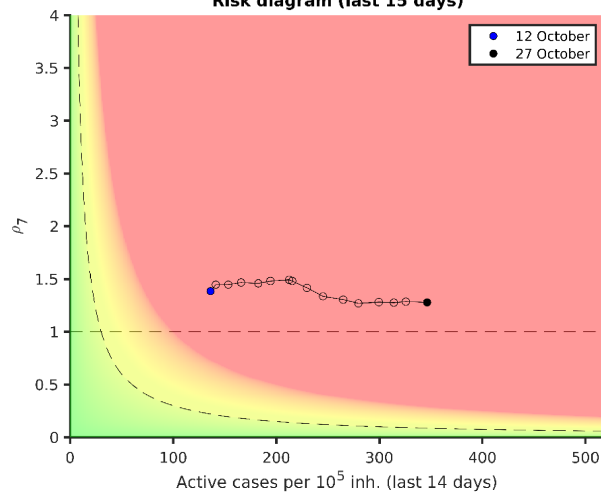
Actual $\rho_7 = 1.3$



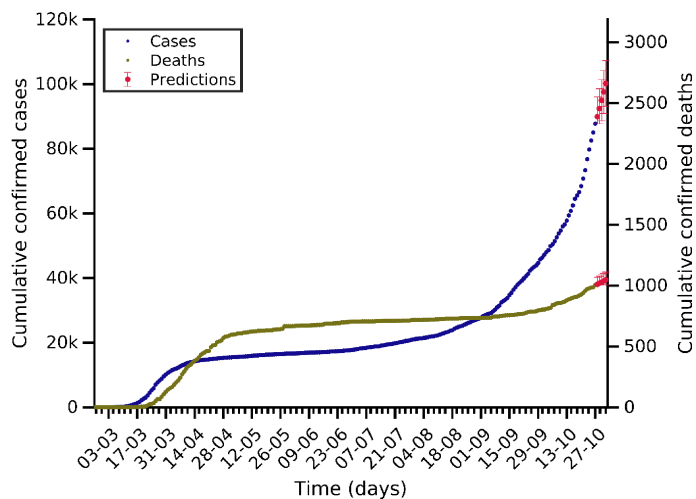
Risk diagram



Risk diagram (last 15 days)



Austria 27-10-2020. Pop: 9.0M. Cumulative incidence: 974/10⁵

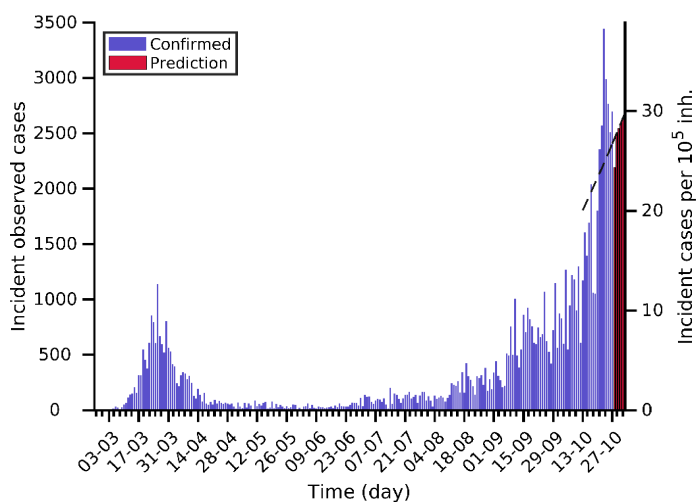


Predictions for next days

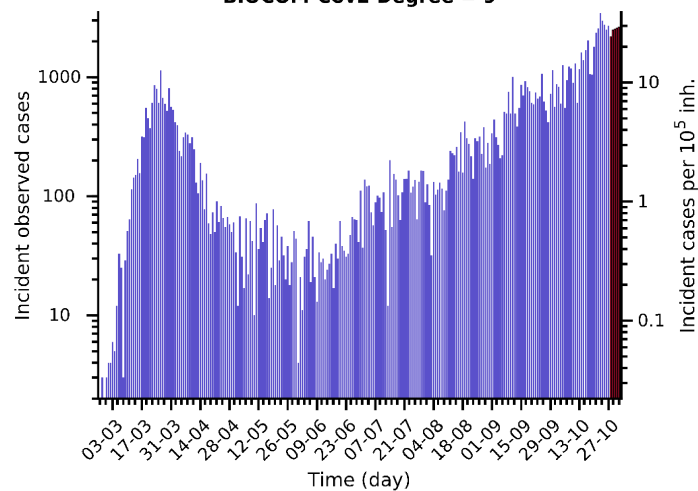
Day	Number of cases	95% Confidence Interval
28-10-2020	89939 (+2193)	[87746 - 96000]
30-10-2020	94981 (+2543)	[88622 - 101339]
01-11-2020	100204 (+2635)	[93155 - 107253]

Current indicators

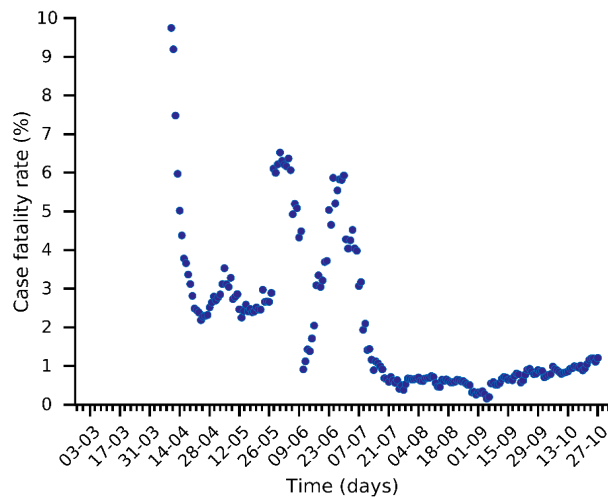
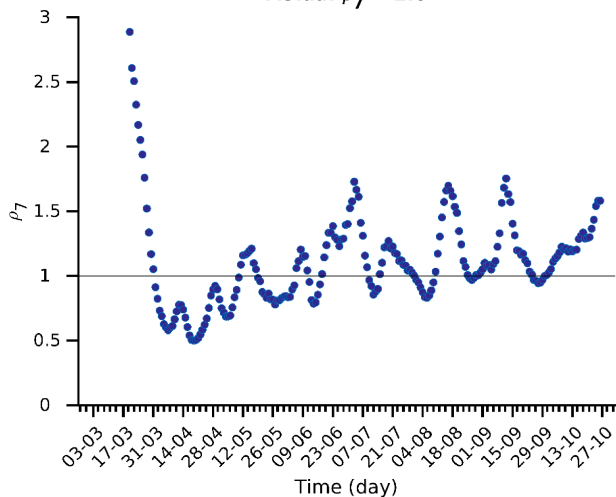
A ₁₄	EPG	CFR
333	526	1.21 %



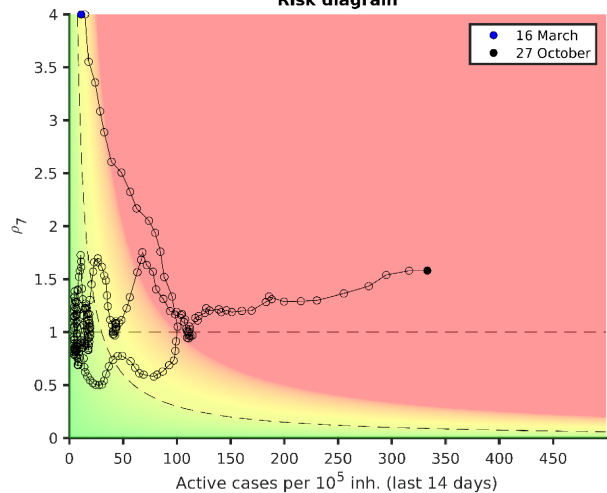
BIOCOM-Cov2 Degree = 9



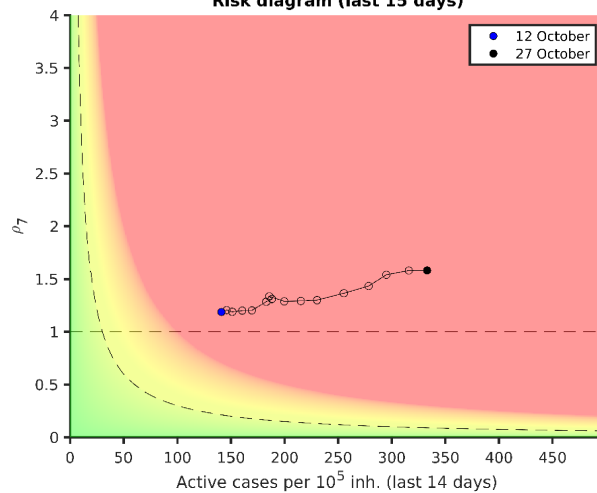
Actual $\rho_7 = 1.6$



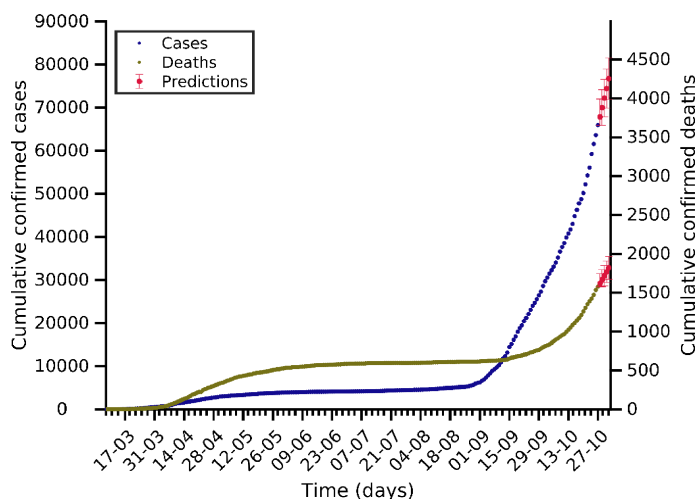
Risk diagram



Risk diagram (last 15 days)



Hungary 27-10-2020. Pop: 9.7M. Cumulative incidence: 683/10⁵

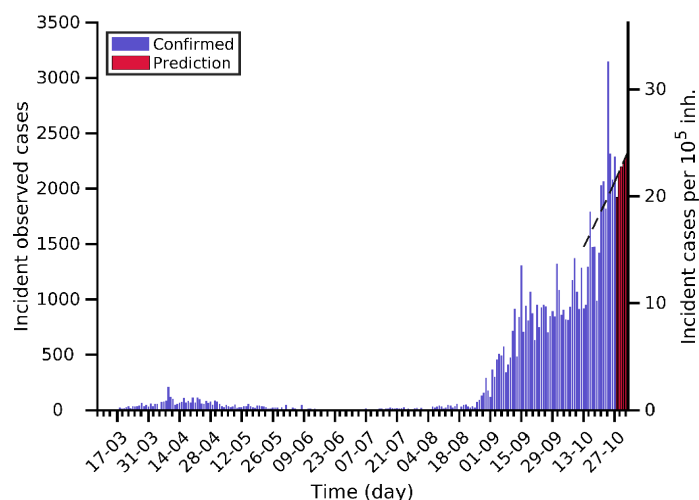


Predictions for next days

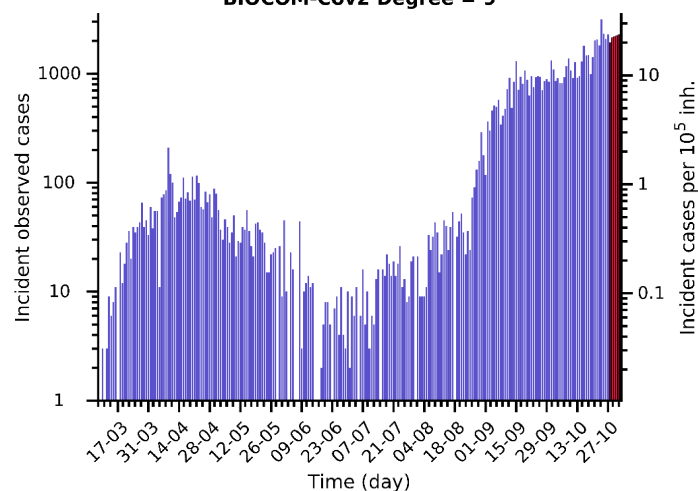
Day	Number of cases	95% Confidence Interval
28-10-2020	67855 (+1922)	[65933 - 71976]
30-10-2020	72203 (+2196)	[67873 - 76532]
01-11-2020	76731 (+2287)	[71909 - 81553]

Current indicators

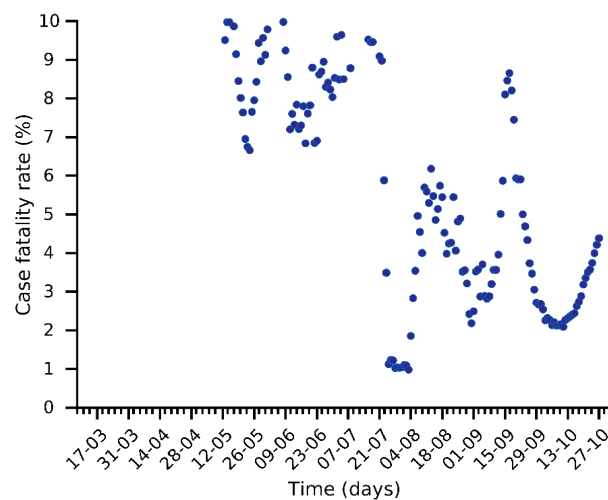
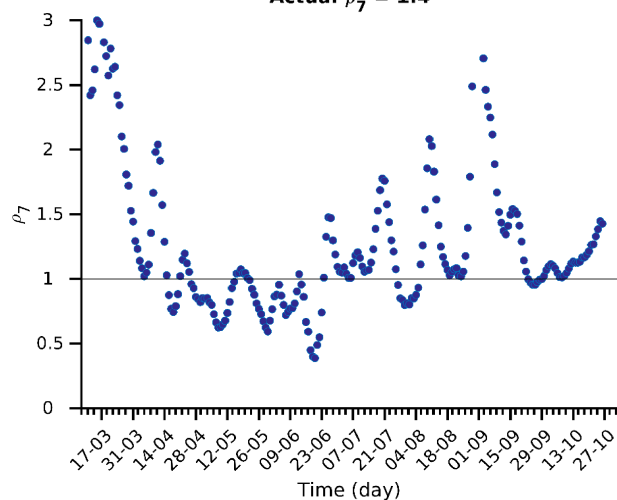
A ₁₄	EPG	CFR
260	372	4.38 %



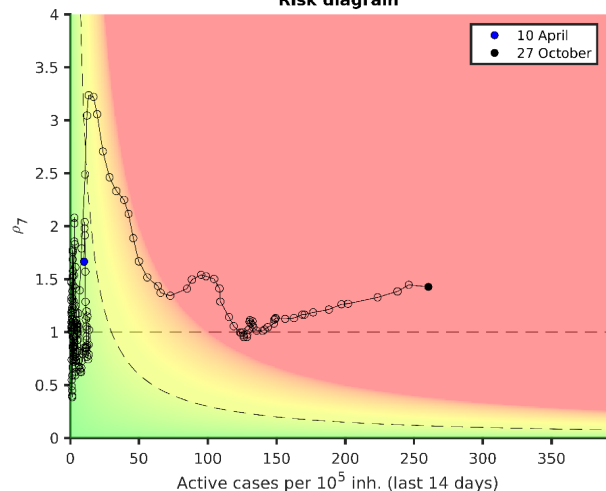
BIOCOM-Cov2 Degree = 9



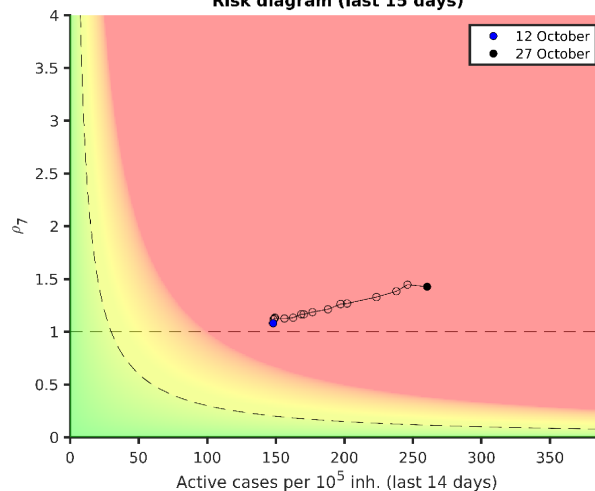
Actual $\rho_7 = 1.4$



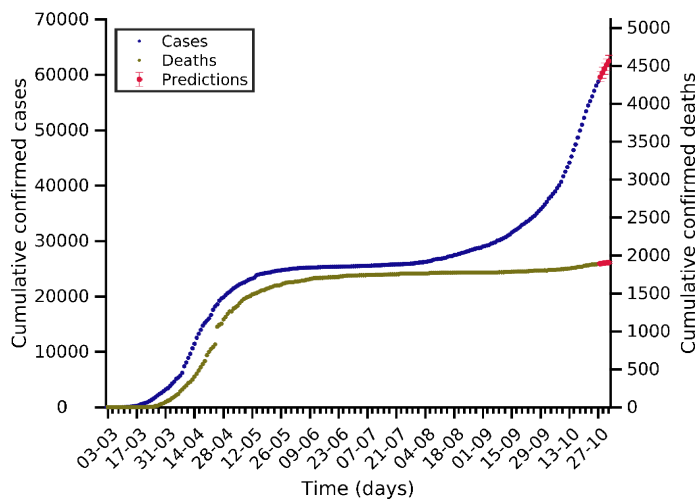
Risk diagram



Risk diagram (last 15 days)



Ireland 27-10-2020. Pop: 4.9M. Cumulative incidence: 1190/10⁵

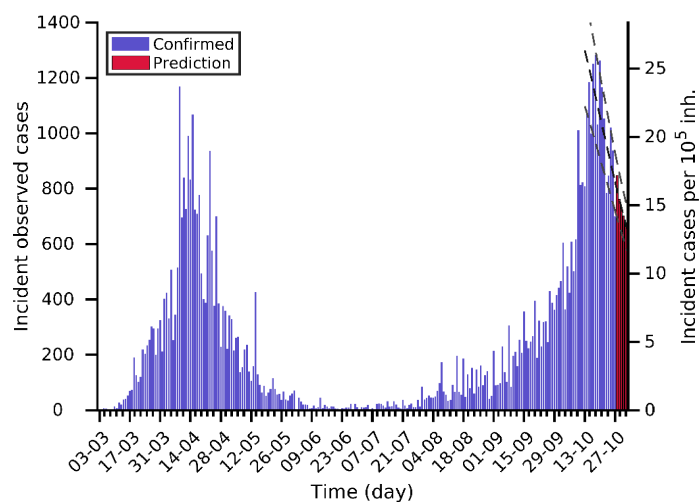


Predictions for next days

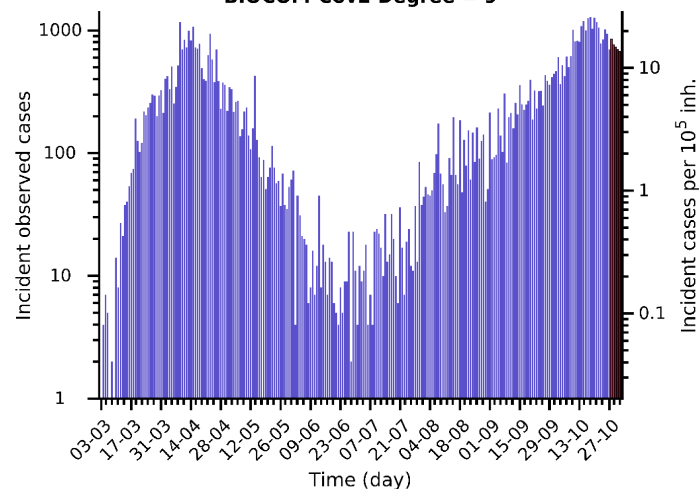
Day	Number of cases	95% Confidence Interval
28-10-2020	59615 (+848)	[58767 - 60610]
30-10-2020	61109 (+732)	[60083 - 62134]
01-11-2020	62483 (+673)	[61401 - 63565]

Current indicators

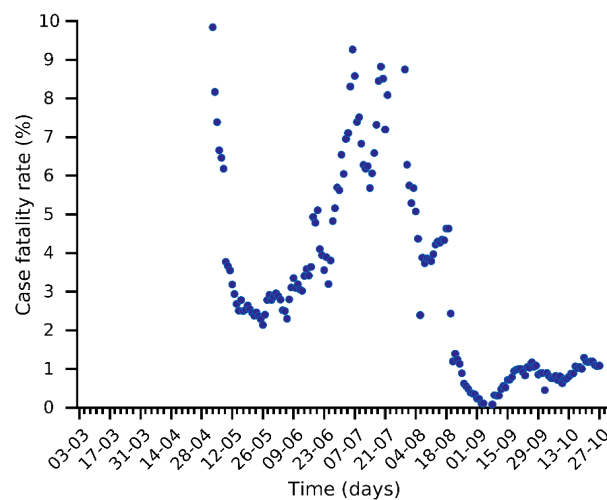
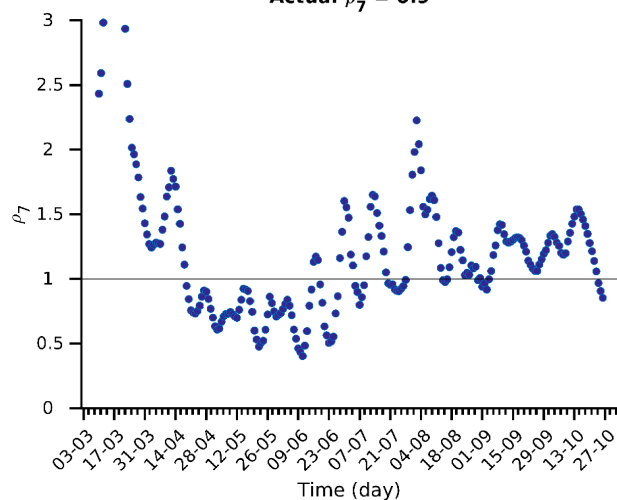
A ₁₄	EPG	CFR
296	252	1.08 %



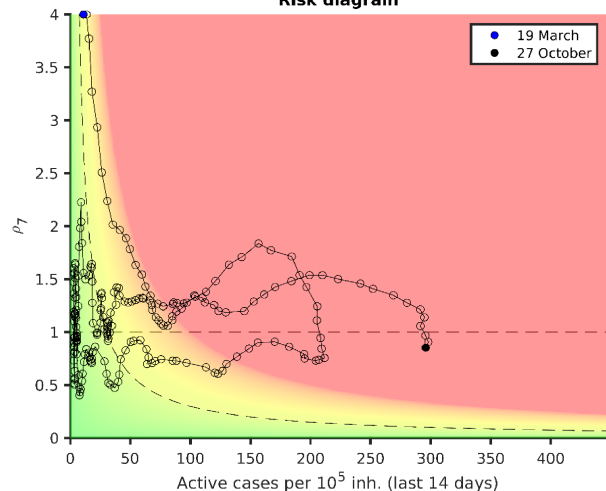
BIOCOM-Cov2 Degree = 9



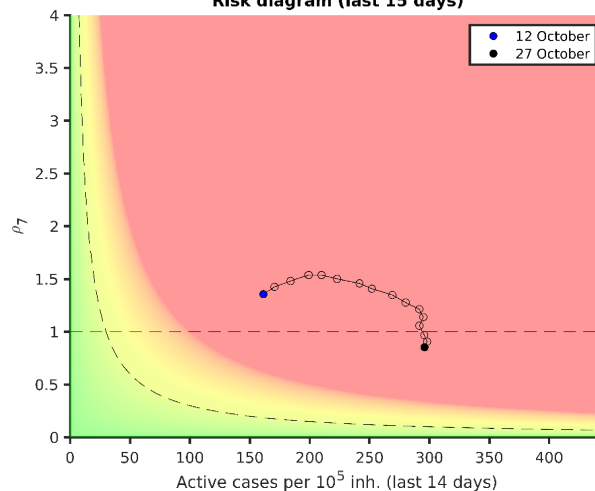
Actual $\rho_7 = 0.9$



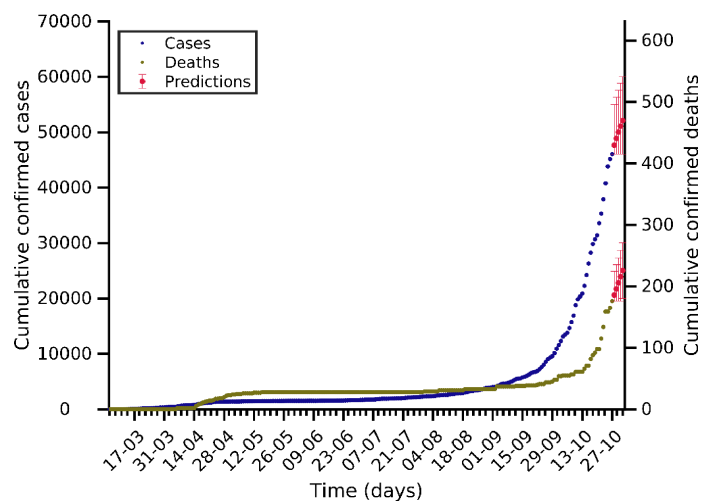
Risk diagram



Risk diagram (last 15 days)



Slovakia 27-10-2020. Pop: 5.5M. Cumulative incidence: 844/10⁵

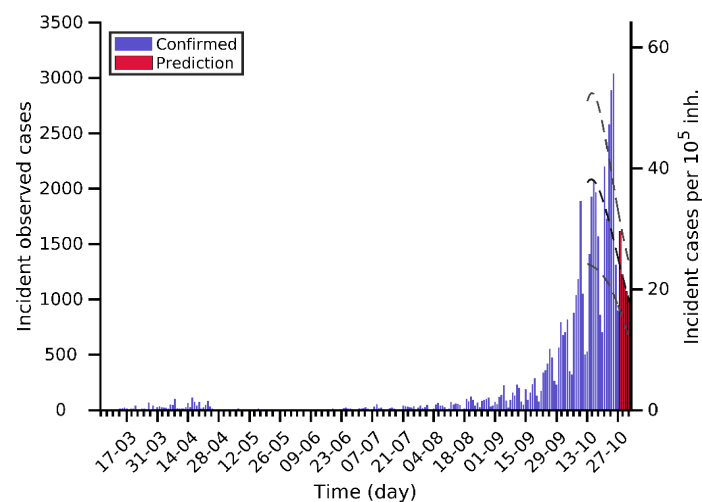


Predictions for next days

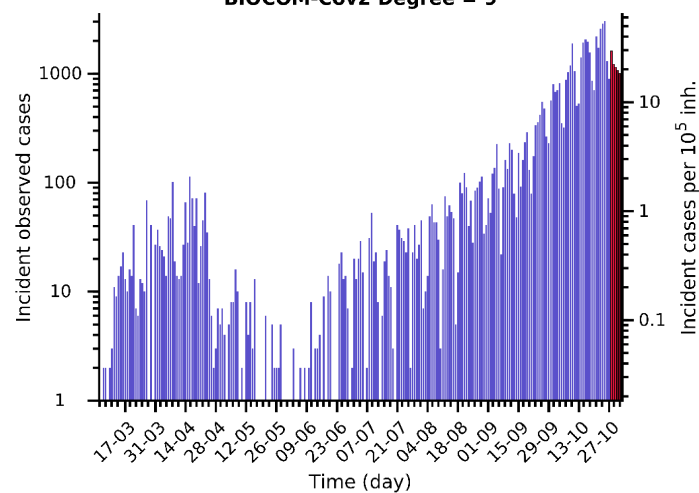
Day	Number of cases	95% Confidence Interval
28-10-2020	47672 (+1616)	[46056 - 55016]
30-10-2020	50042 (+1147)	[46056 - 57598]
01-11-2020	52120 (+1004)	[46056 - 60056]

Current indicators

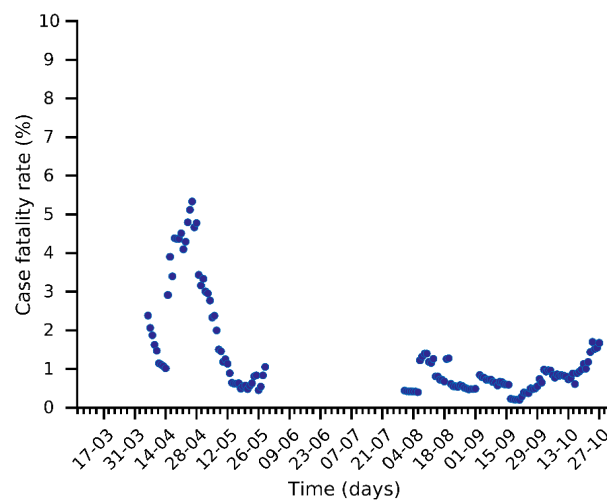
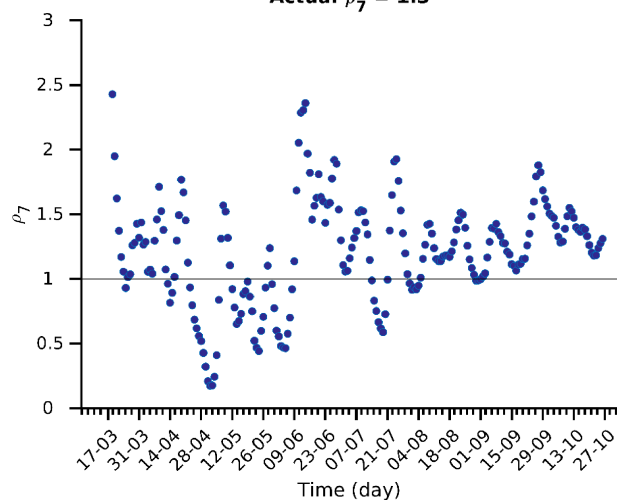
A ₁₄	EPG	CFR
461	604	1.67 %



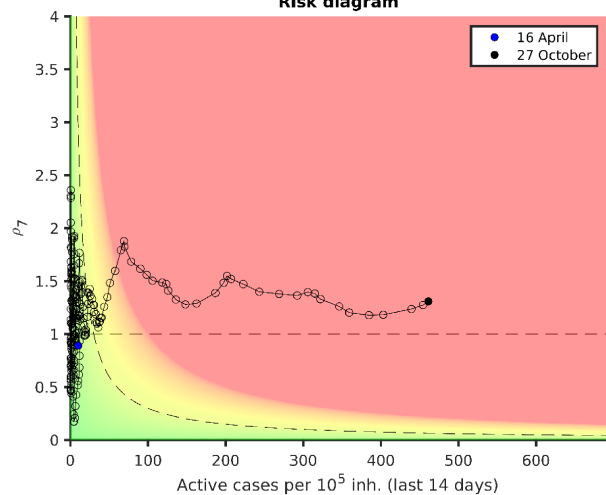
BIOCOM-Cov2 Degree = 9



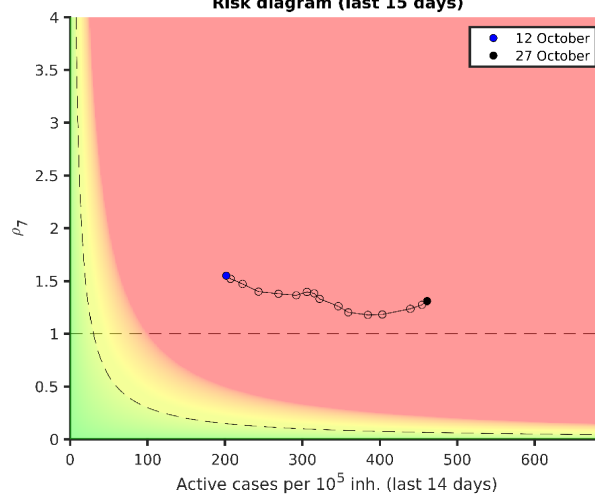
Actual $\rho_7 = 1.3$



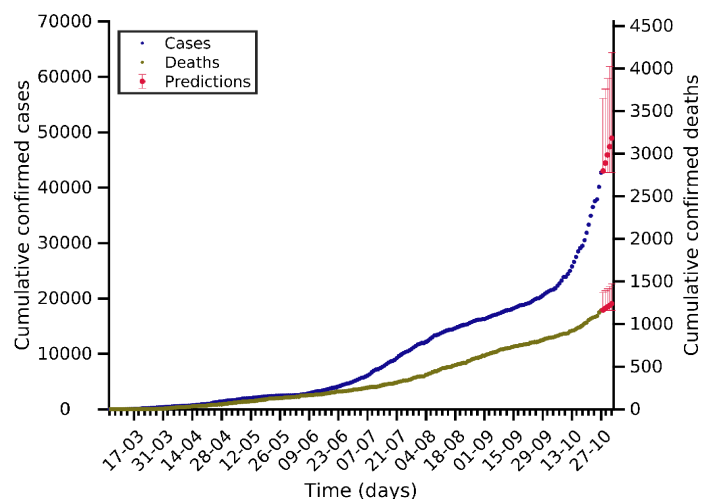
Risk diagram



Risk diagram (last 15 days)



Bulgaria 27-10-2020. Pop: 6.9M. Cumulative incidence: 615/10⁵

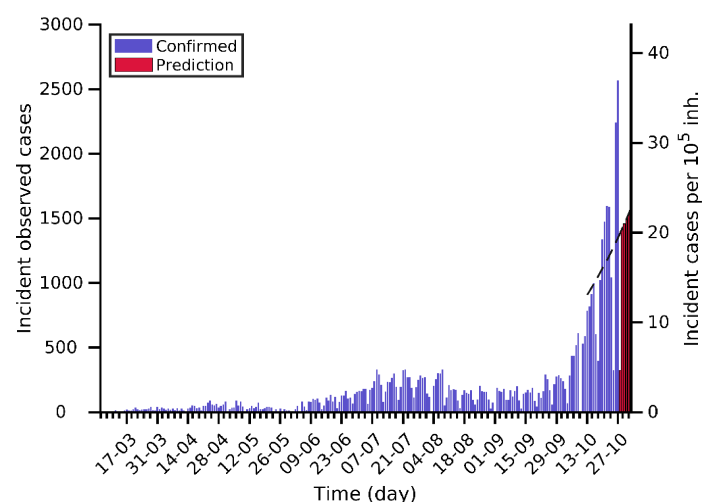


Predictions for next days

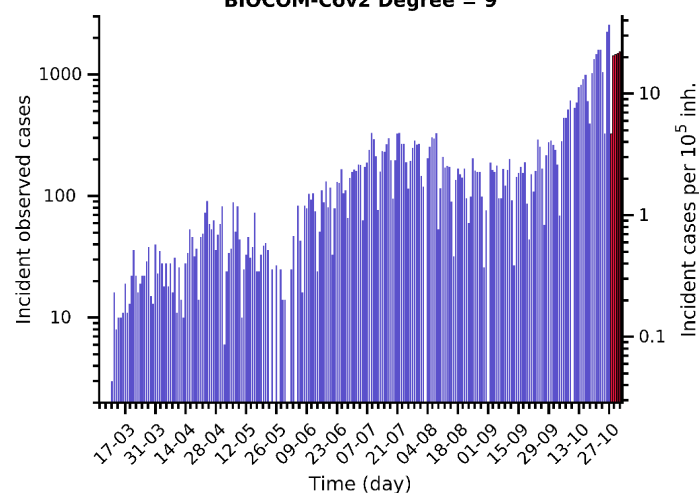
Day	Number of cases	95% Confidence Interval
28-10-2020	43024 (+323)	[42701 - 56128]
30-10-2020	45904 (+1459)	[42701 - 59700]
01-11-2020	48937 (+1536)	[42701 - 64391]

Current indicators

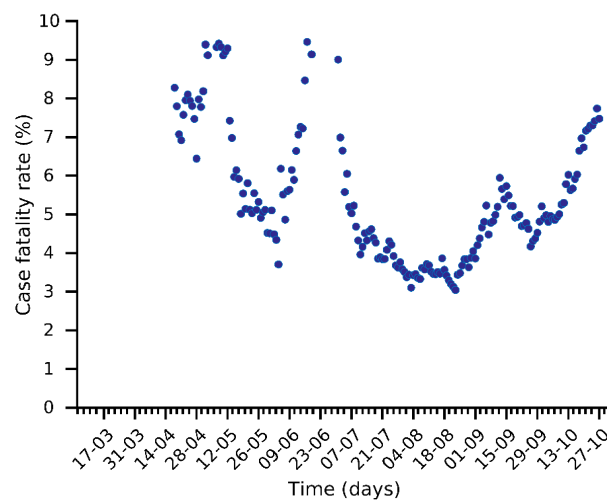
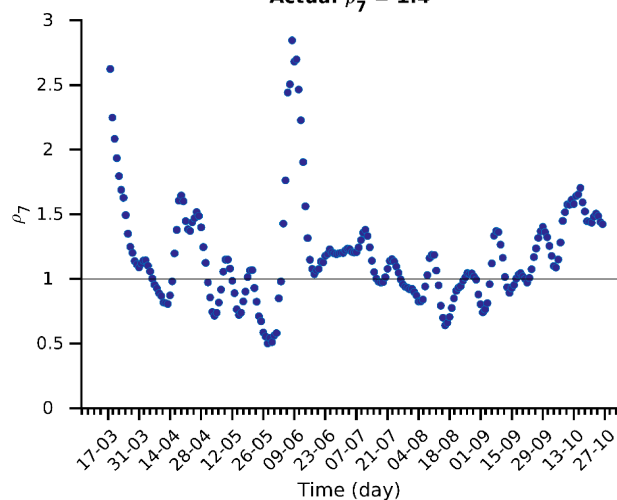
A ₁₄	EPG	CFR
244	347	7.48 %



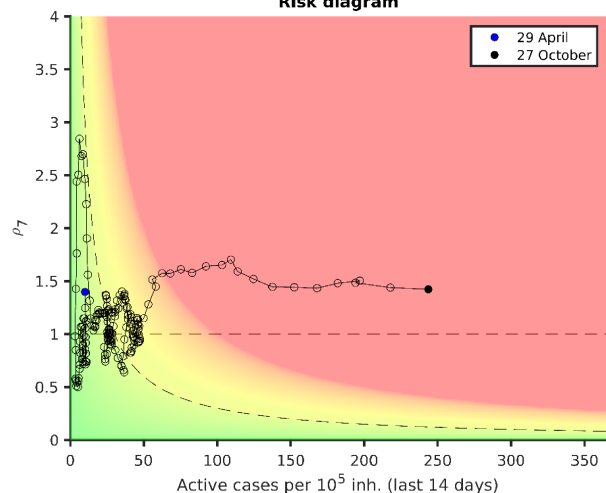
BIOCOM-Cov2 Degree = 9



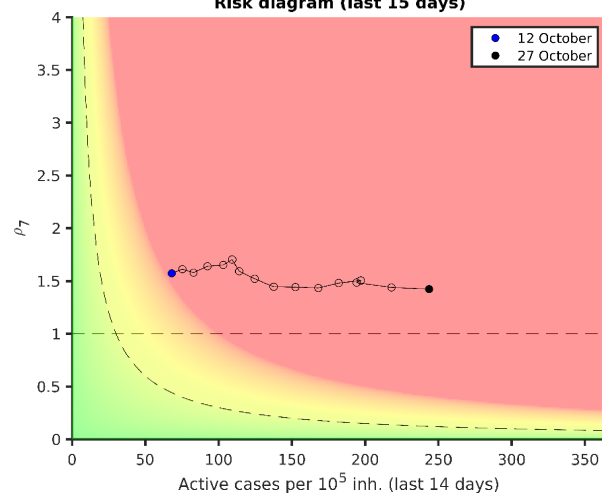
Actual $\rho_7 = 1.4$



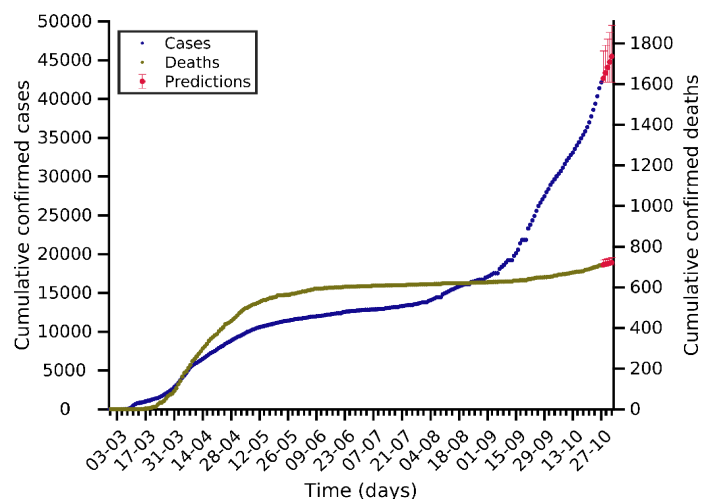
Risk diagram



Risk diagram (last 15 days)



Denmark 27-10-2020. Pop: 5.8M. Cumulative incidence: 728/10⁵

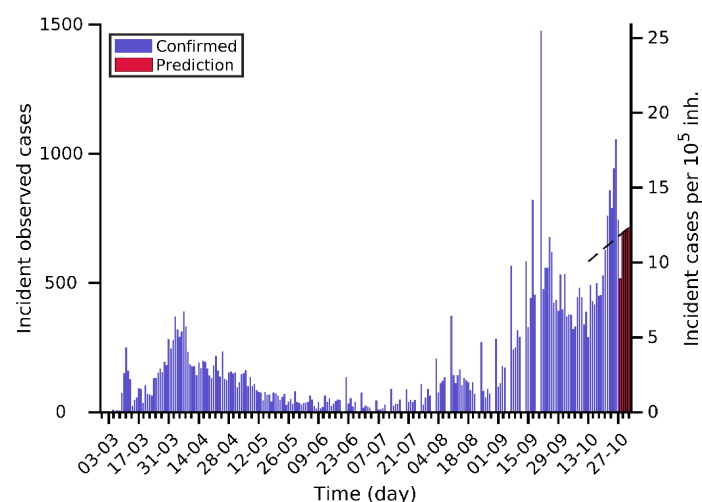


Predictions for next days

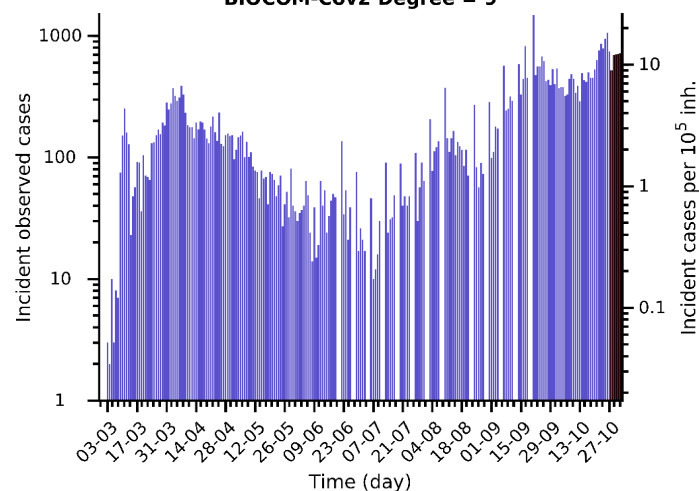
Day	Number of cases	95% Confidence Interval
28-10-2020	42673 (+516)	[42157 - 46186]
30-10-2020	44068 (+701)	[42157 - 47736]
01-11-2020	45490 (+715)	[42157 - 49507]

Current indicators

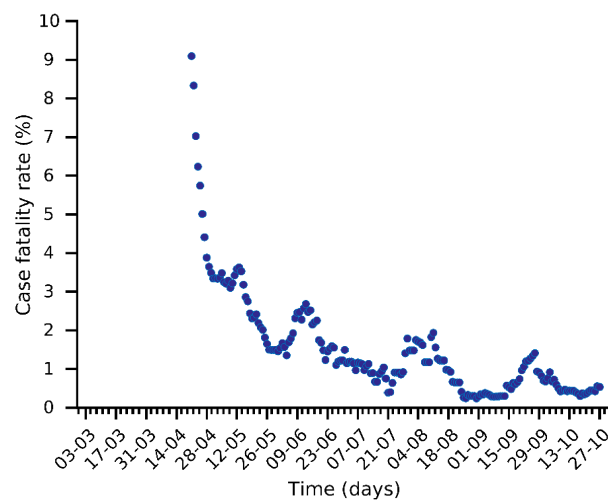
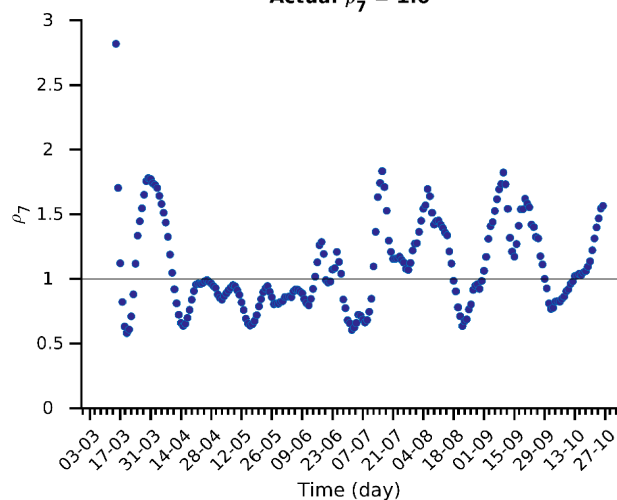
A ₁₄	EPG	CFR
156	245	0.53 %



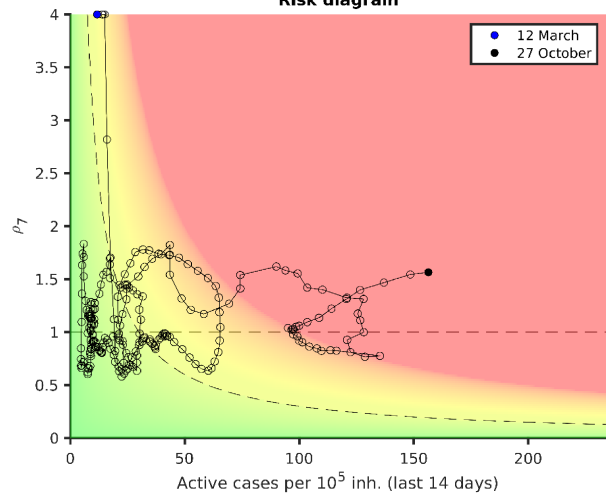
BIOCOM-Cov2 Degree = 9



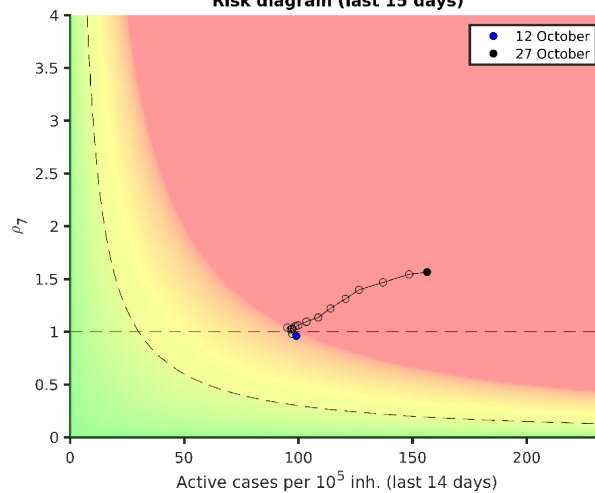
Actual $\rho_7 = 1.6$



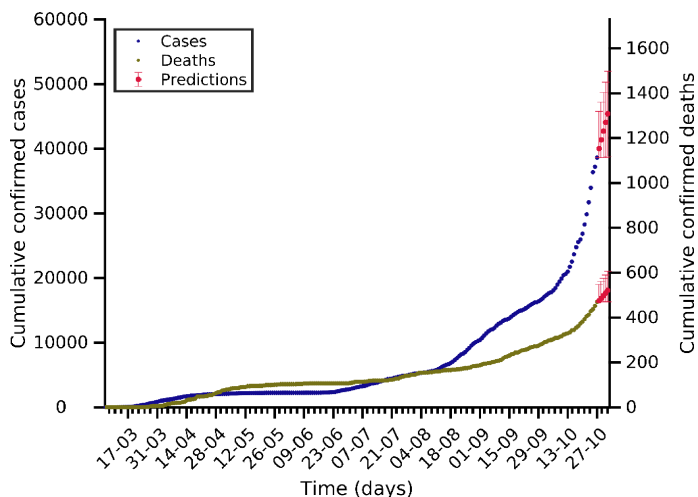
Risk diagram



Risk diagram (last 15 days)



Croatia 27-10-2020. Pop: 4.1M. Cumulative incidence: 941/10⁵

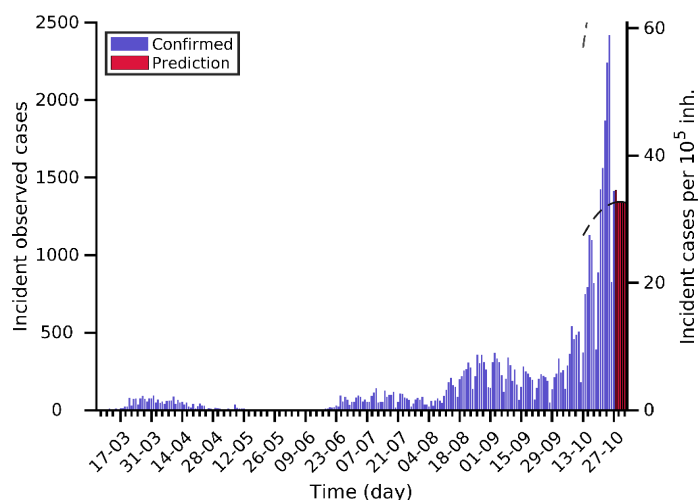


Predictions for next days

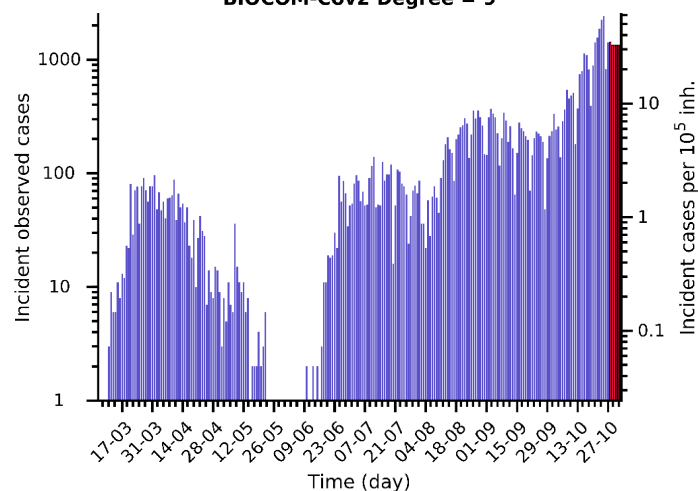
Day	Number of cases	95% Confidence Interval
28-10-2020	40041 (+1420)	[38621 - 45786]
30-10-2020	42728 (+1344)	[38621 - 48732]
01-11-2020	45411 (+1341)	[38833 - 51989]

Current indicators

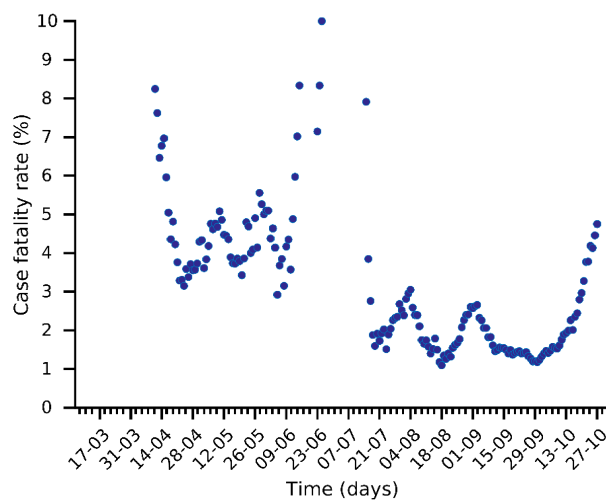
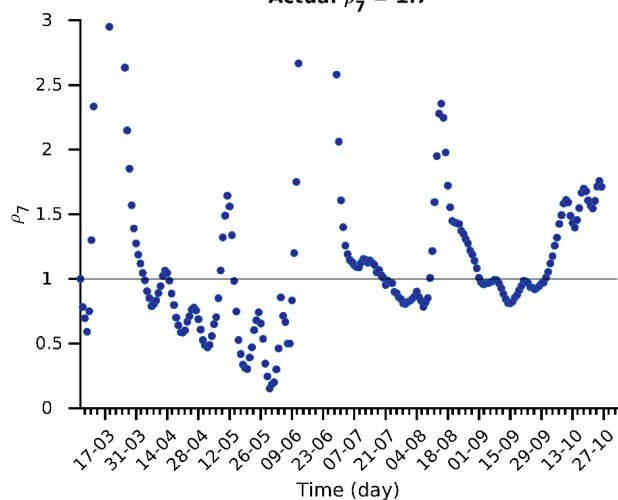
A ₁₄	EPG	CFR
429	735	4.75 %



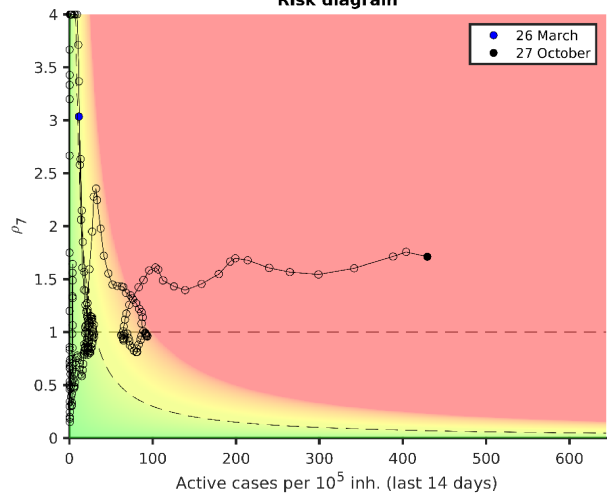
BIOCOM-Cov2 Degree = 9



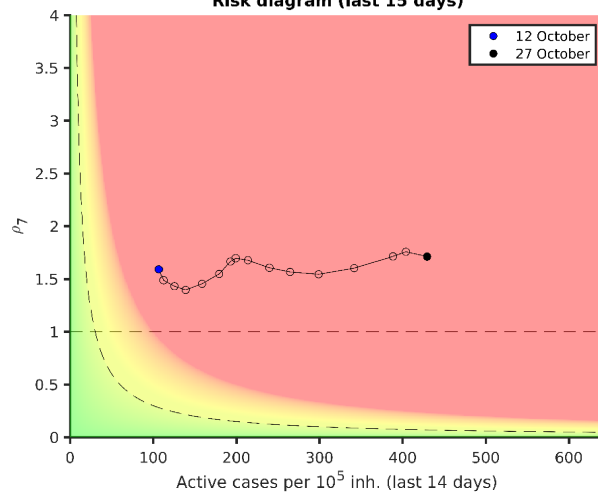
Actual $\rho_7 = 1.7$



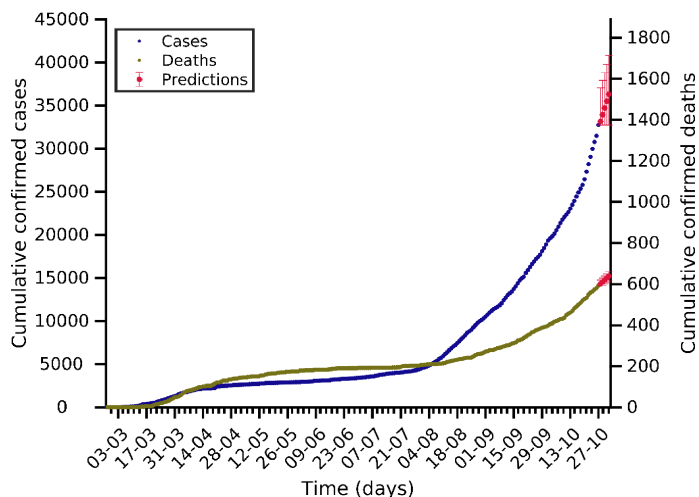
Risk diagram



Risk diagram (last 15 days)



Greece 27-10-2020. Pop: 10.4M. Cumulative incidence: 314/10⁵

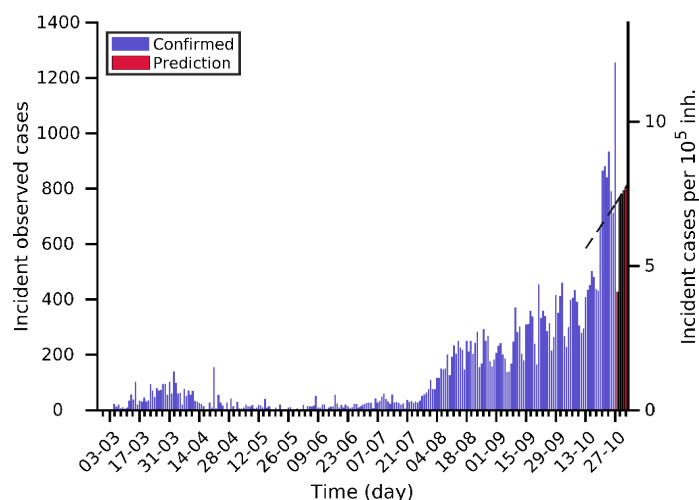


Predictions for next days

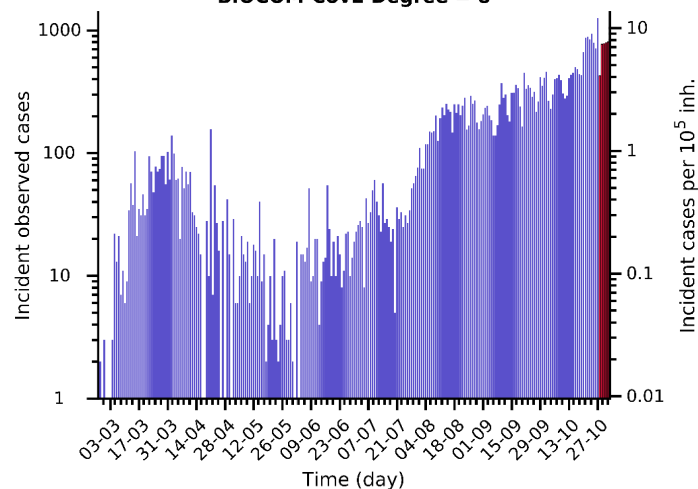
Day	Number of cases	95% Confidence Interval
28-10-2020	33179 (+427)	[32752 - 37088]
30-10-2020	34728 (+780)	[32752 - 38822]
01-11-2020	36325 (+805)	[32752 - 40844]

Current indicators

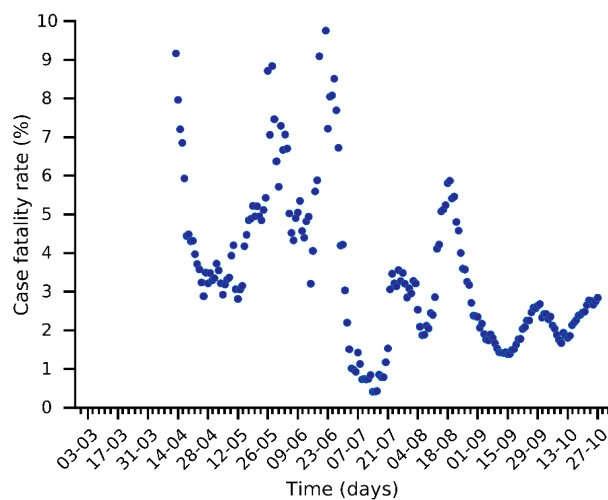
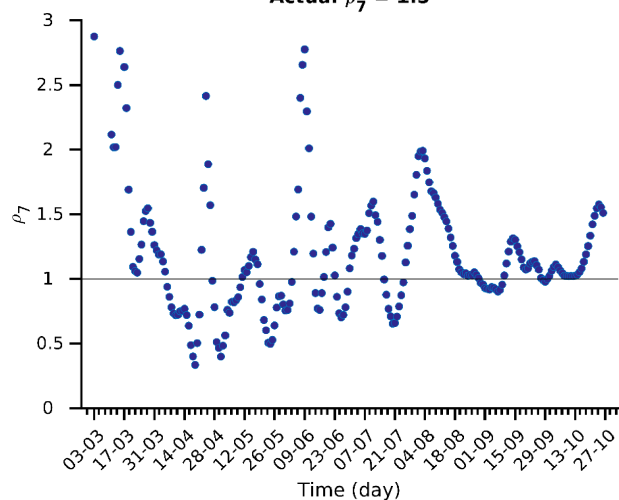
A ₁₄	EPG	CFR
93	140	2.84 %



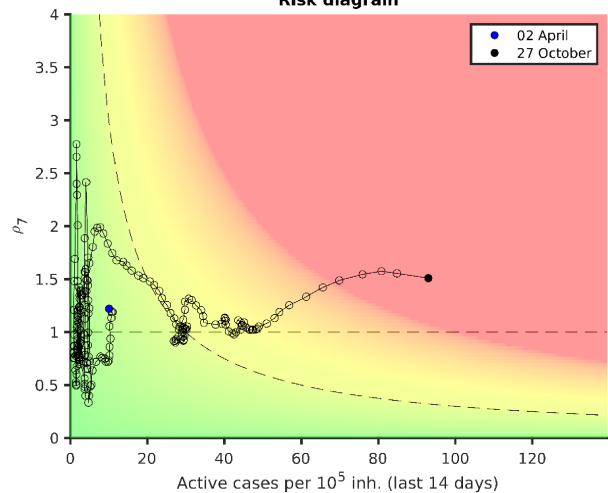
BIOCOM-Cov2 Degree = 8



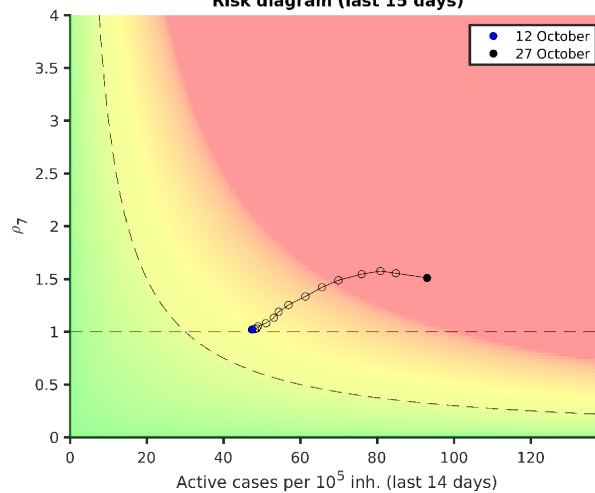
Actual $\rho_7 = 1.5$



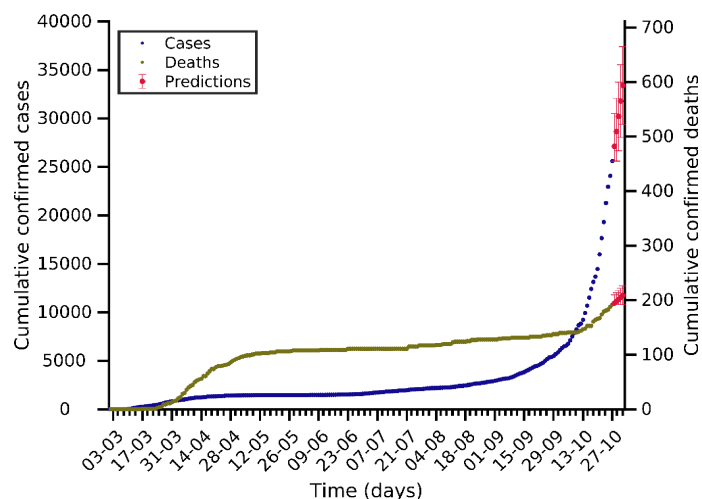
Risk diagram



Risk diagram (last 15 days)



Slovenia 27-10-2020. Pop: 2.1M. Cumulative incidence: 1232/10⁵

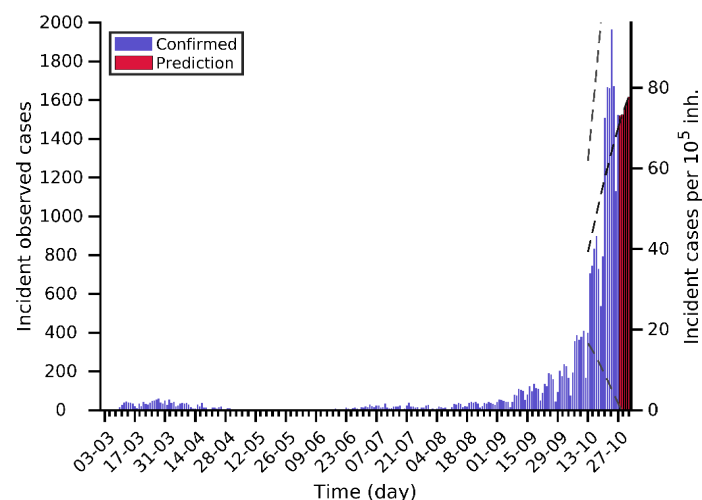


Predictions for next days

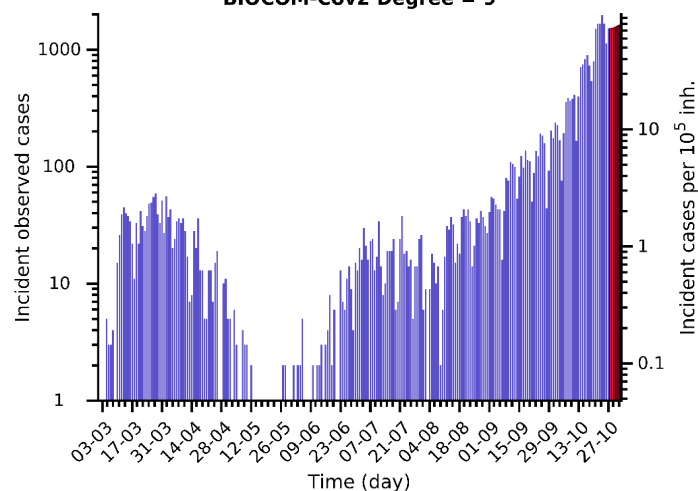
Day	Number of cases	95% Confidence Interval
28-10-2020	27123 (+1520)	[25603 - 30479]
30-10-2020	30206 (+1558)	[26660 - 33753]
01-11-2020	33411 (+1616)	[29405 - 37417]

Current indicators

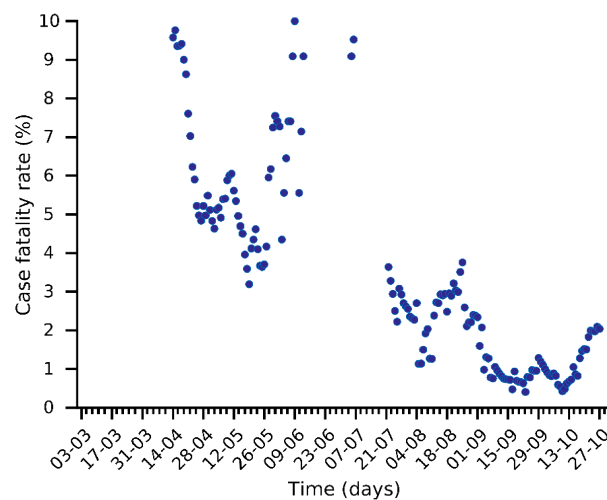
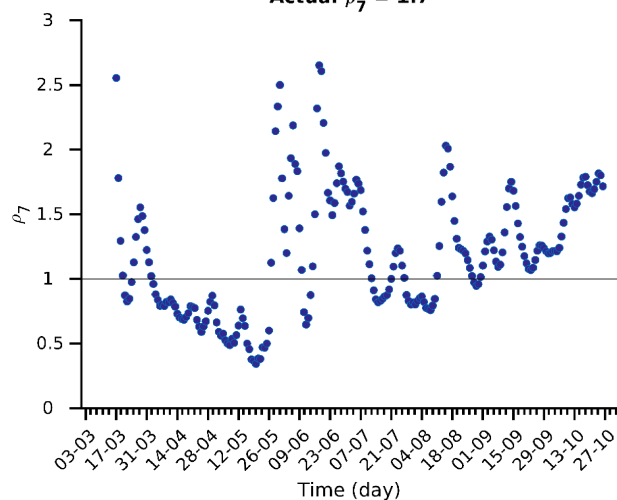
A ₁₄	EPG	CFR
788	1352	2.04 %



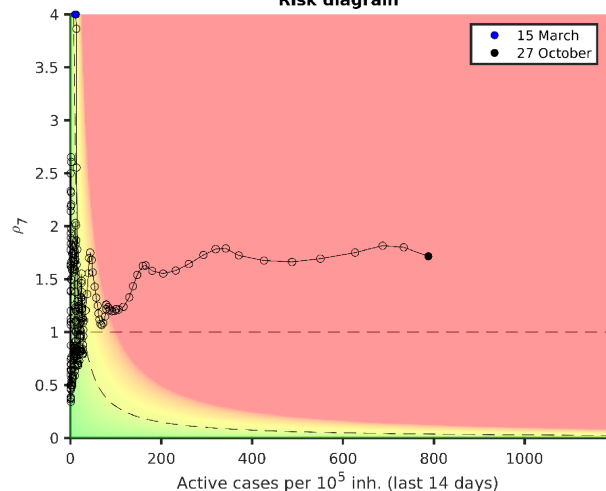
BIOCOM-Cov2 Degree = 9



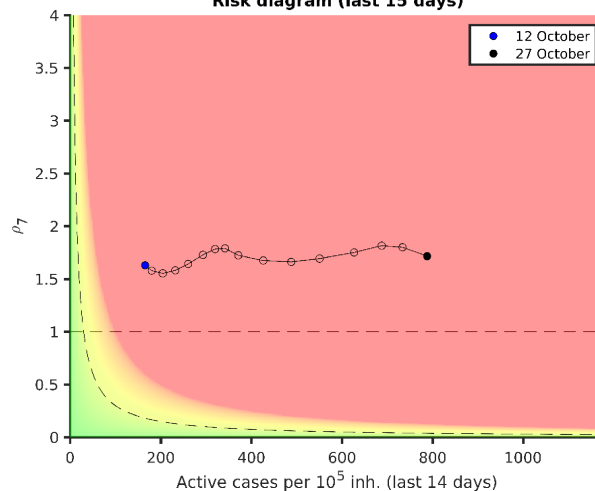
Actual $\rho_7 = 1.7$



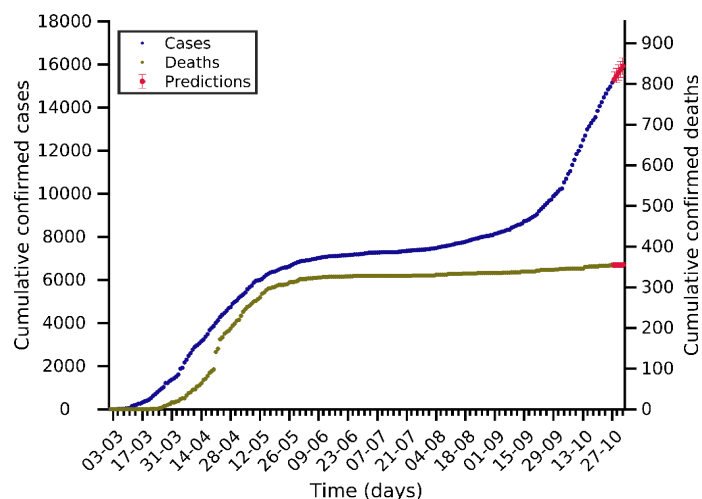
Risk diagram



Risk diagram (last 15 days)



Finland 27-10-2020. Pop: 5.5M. Cumulative incidence: 274/10⁵

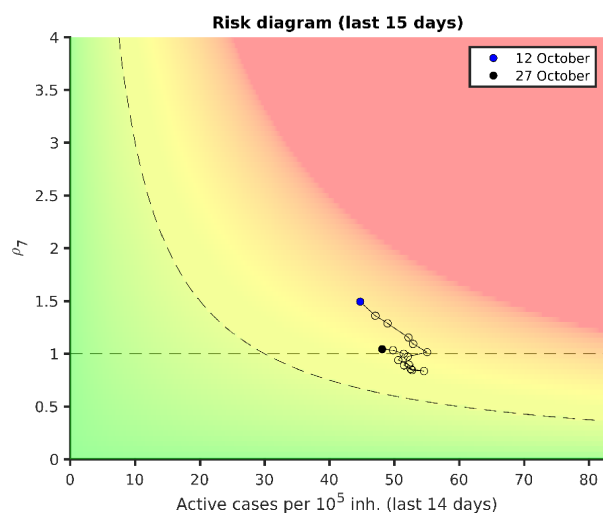
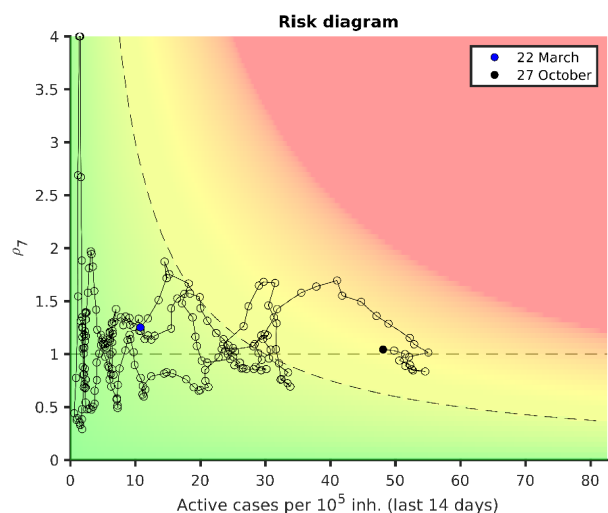
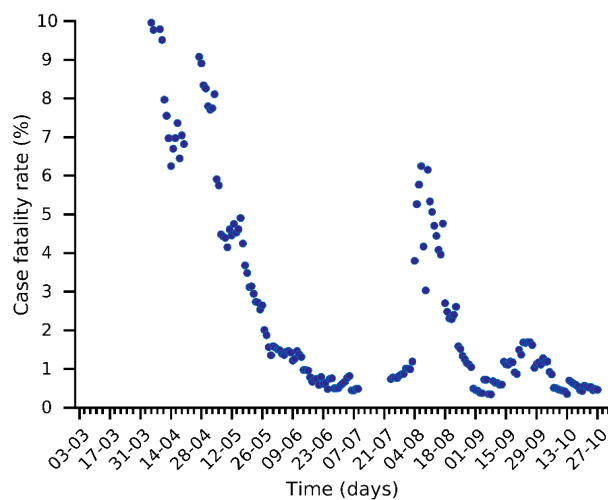
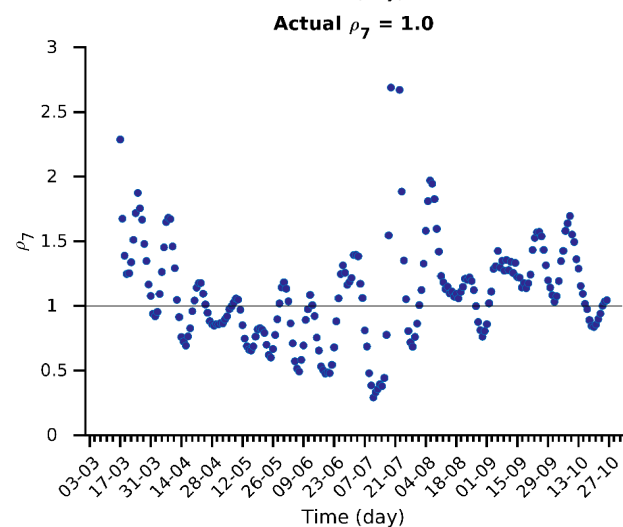
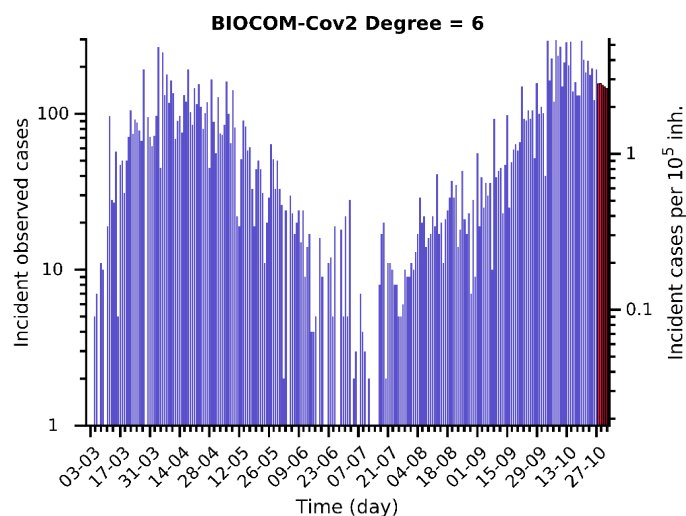
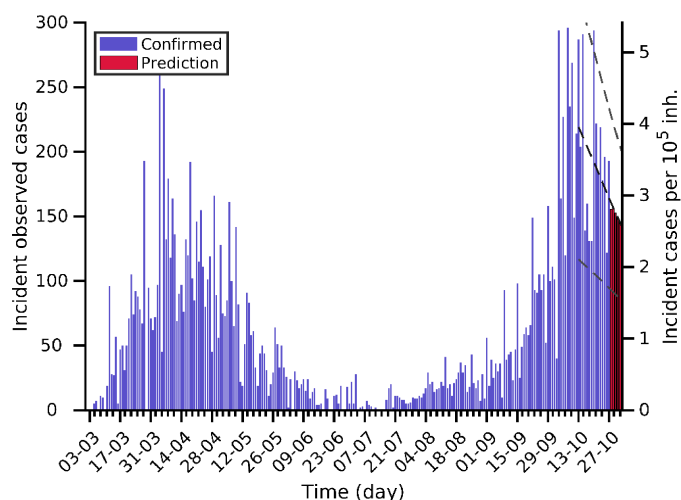


Predictions for next days

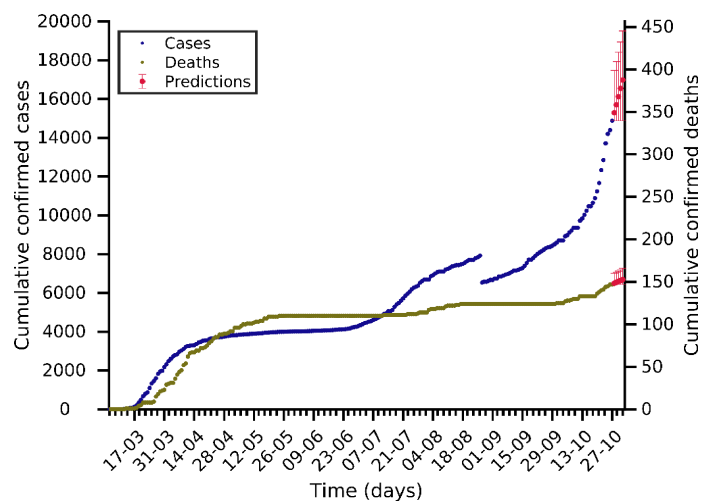
Day	Number of cases	95% Confidence Interval
28-10-2020	15318 (+155)	[15163 - 15667]
30-10-2020	15628 (+153)	[15268 - 15987]
01-11-2020	15922 (+145)	[15538 - 16305]

Current indicators

A ₁₄	EPG	CFR
48	50	0.46 %



Luxembourg 27-10-2020. Pop: 0.6M. Cumulative incidence: 2378/10⁵

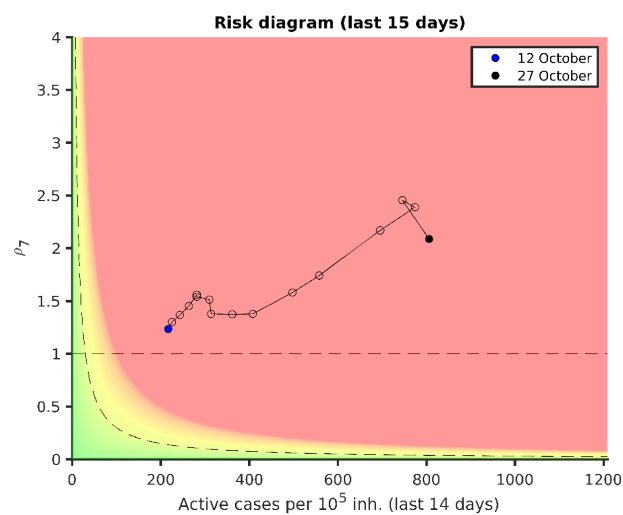
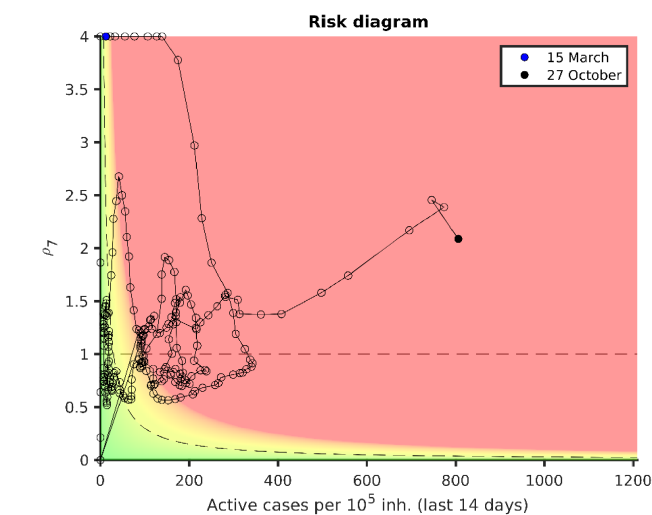
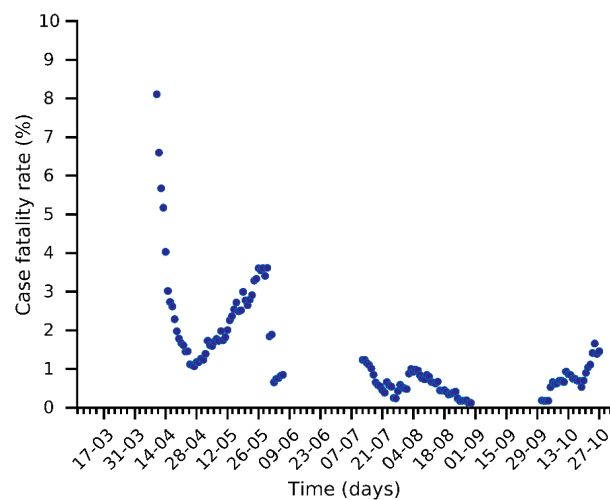
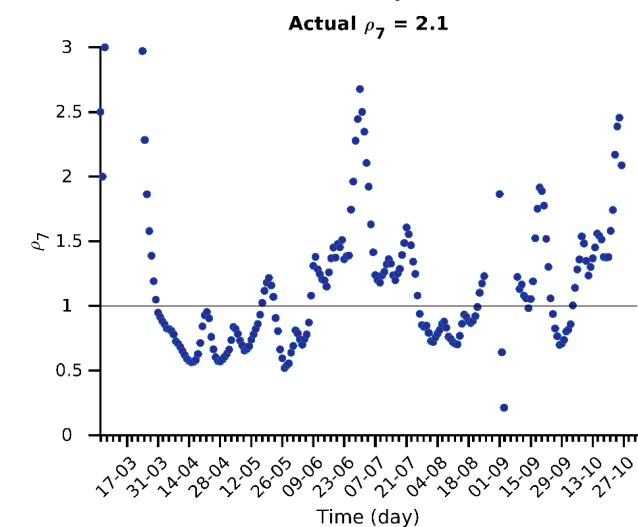
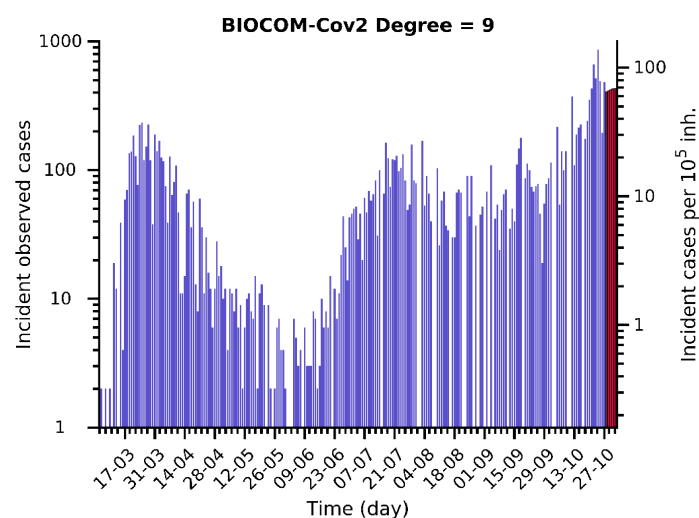
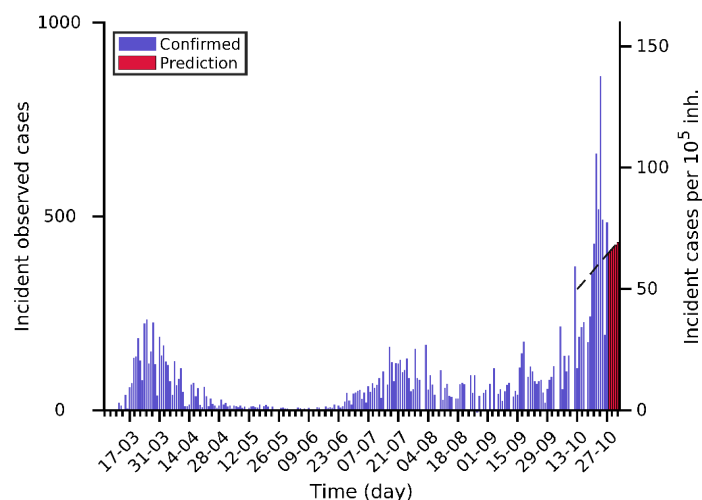


Predictions for next days

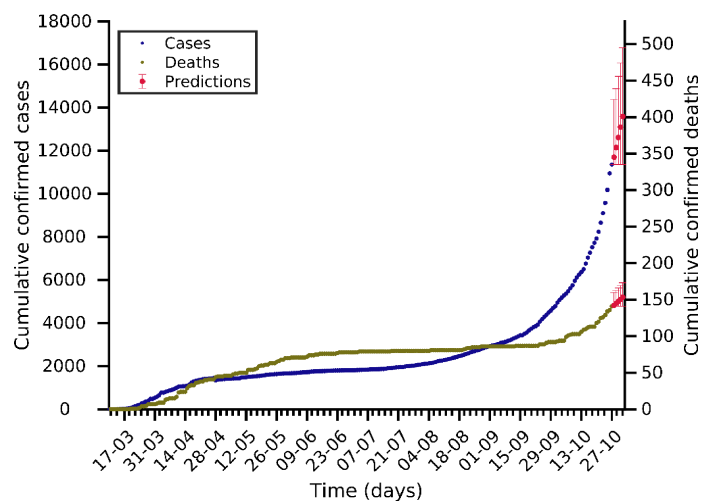
Day	Number of cases	95% Confidence Interval
28-10-2020	15290 (+406)	[14884 - 17477]
30-10-2020	16124 (+420)	[14884 - 18416]
01-11-2020	16984 (+433)	[14884 - 19517]

Current indicators

A ₁₄	EPG	CFR
806	1682	1.45 %



Lithuania 27-10-2020. Pop: 2.7M. Cumulative incidence: 417/10⁵

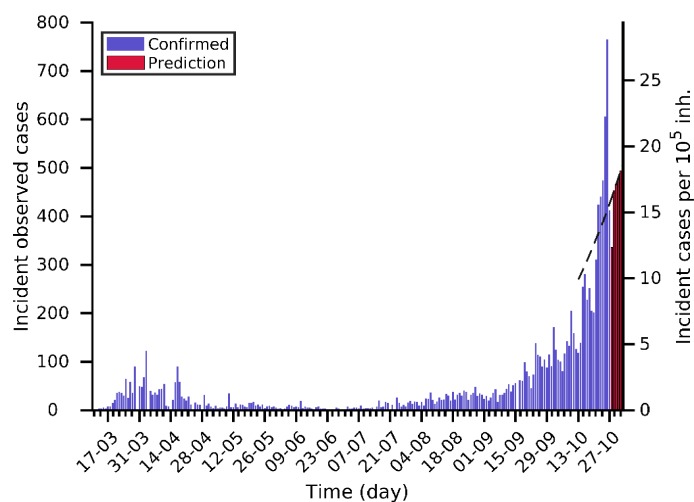


Predictions for next days

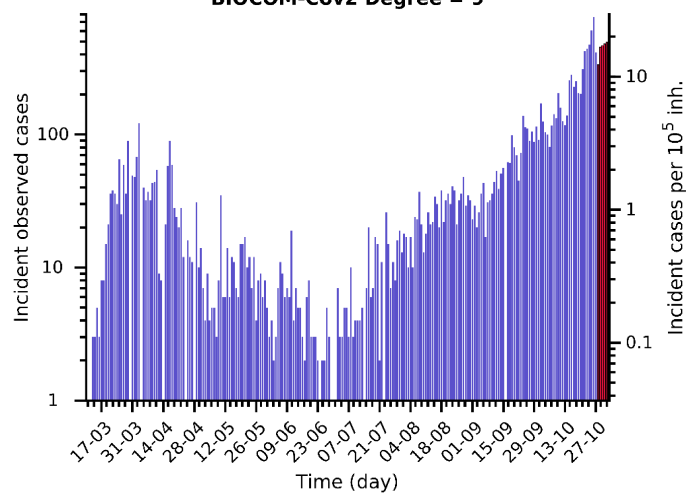
Day	Number of cases	95% Confidence Interval
28-10-2020	11698 (+336)	[11362 - 14383]
30-10-2020	12616 (+466)	[11362 - 15450]
01-11-2020	13590 (+494)	[11362 - 16785]

Current indicators

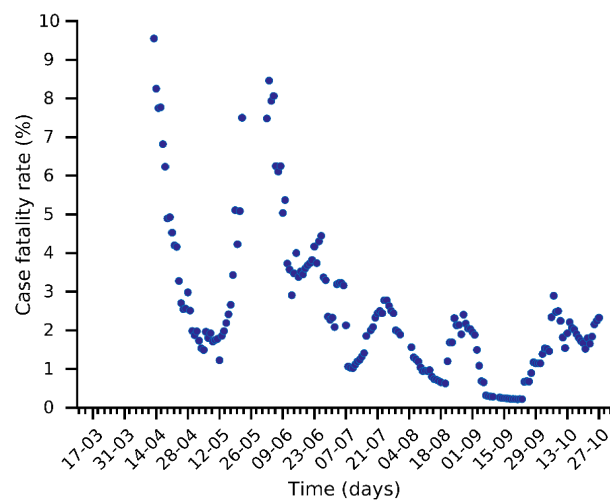
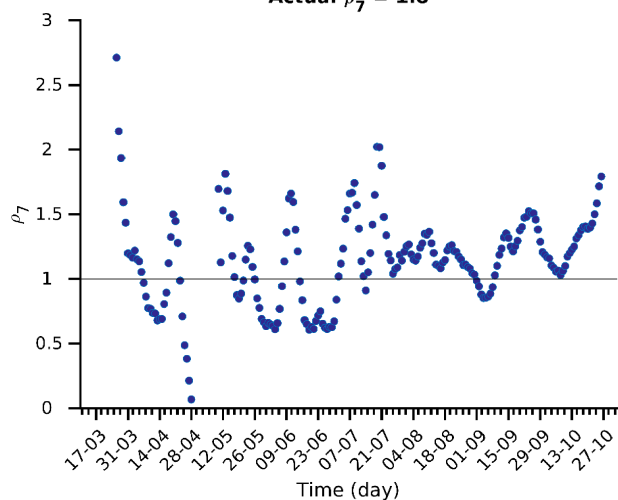
A ₁₄	EPG	CFR
184	329	2.32 %



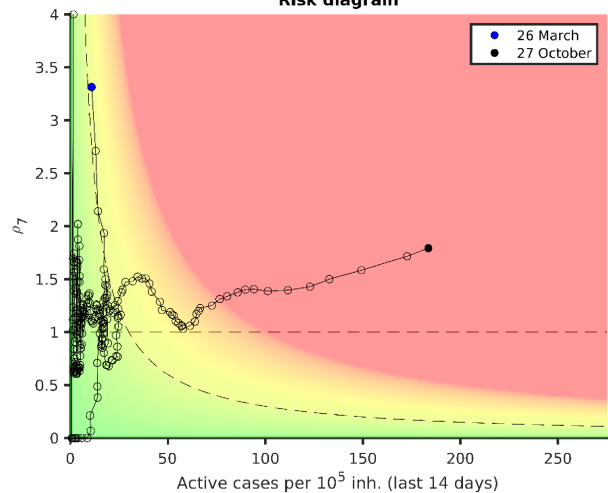
BIOCOM-Cov2 Degree = 9



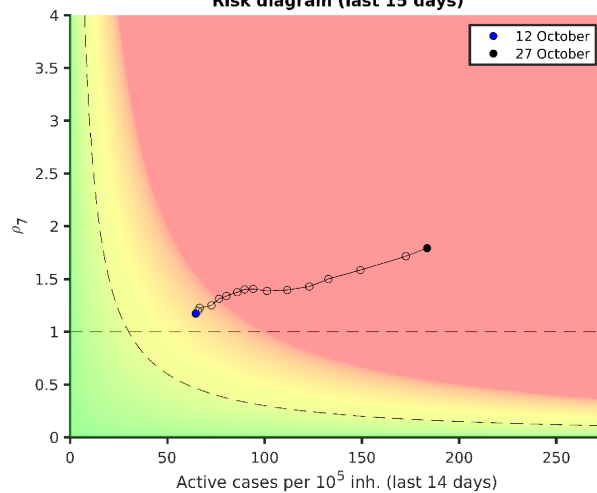
Actual $\rho_7 = 1.8$



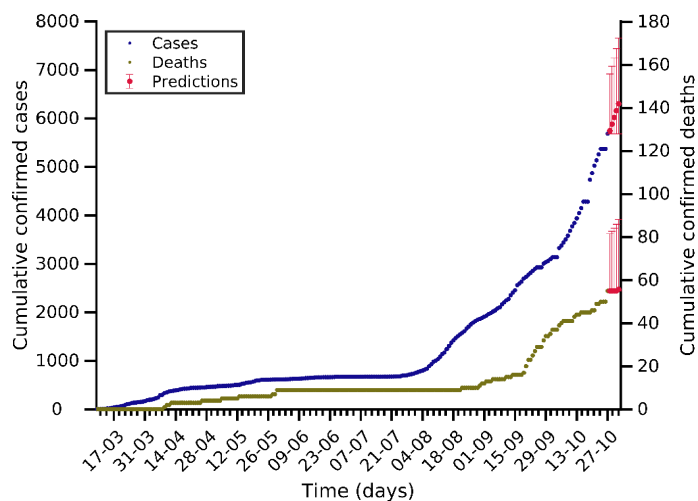
Risk diagram



Risk diagram (last 15 days)



Malta 27-10-2020. Pop: 0.4M. Cumulative incidence: 1288/10⁵

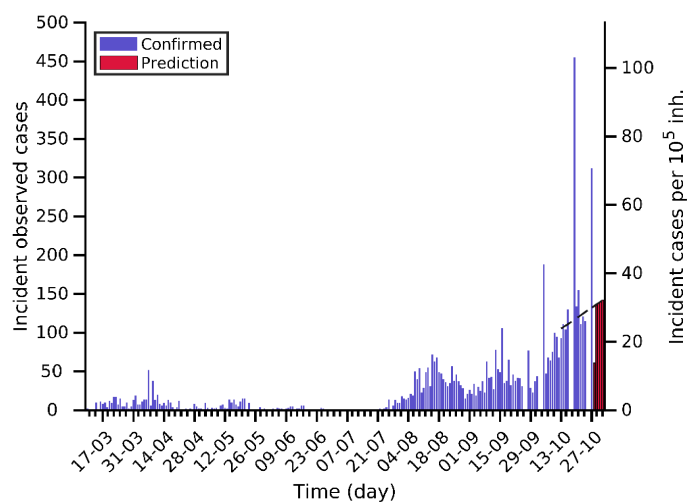


Predictions for next days

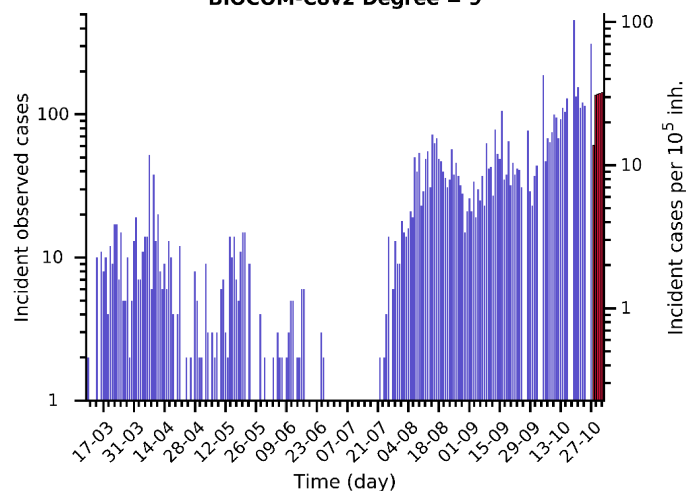
Day	Number of cases	95% Confidence Interval
28-10-2020	5746 (+61)	[5685 - 6920]
30-10-2020	6020 (+138)	[5685 - 7250]
01-11-2020	6303 (+142)	[5685 - 7658]

Current indicators

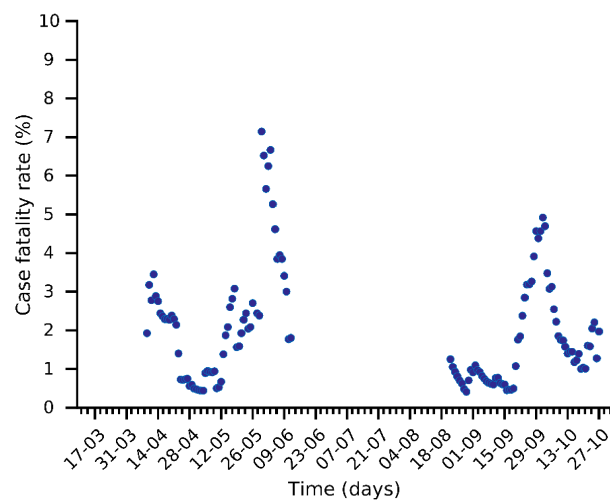
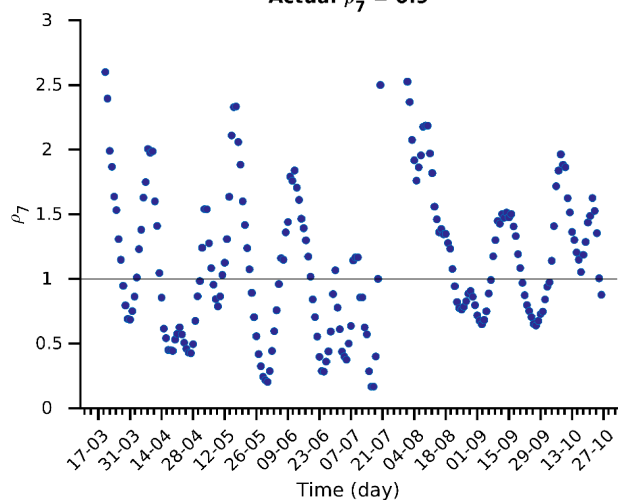
A ₁₄	EPG	CFR
396	347	1.97 %



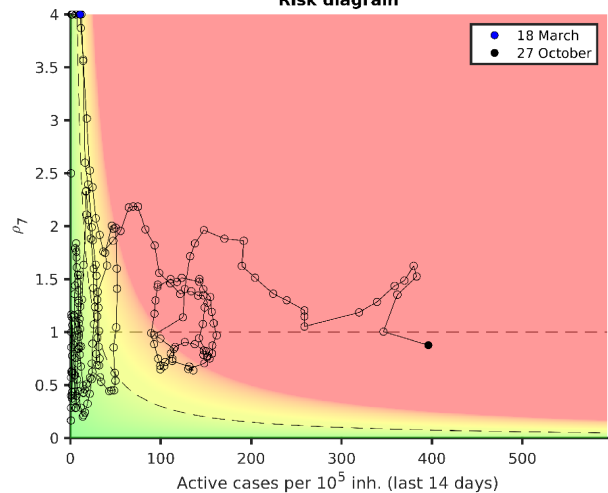
BIOCOM-Cov2 Degree = 9



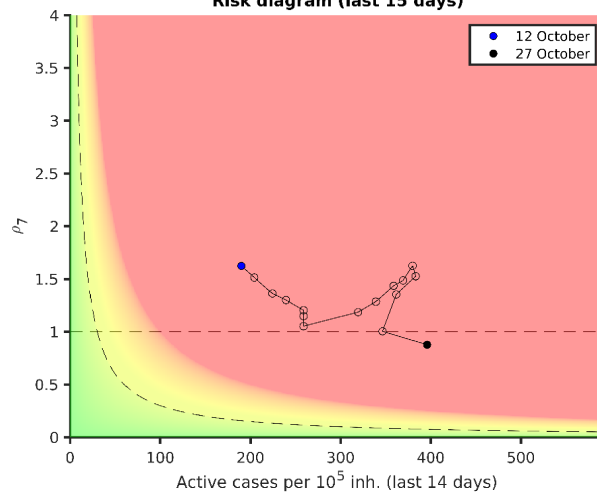
Actual $\rho_7 = 0.9$



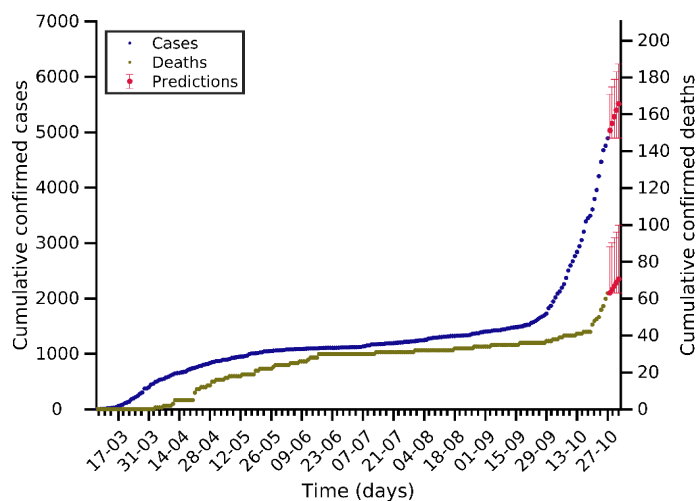
Risk diagram



Risk diagram (last 15 days)



Latvia 27-10-2020. Pop: 1.9M. Cumulative incidence: 259/10⁵

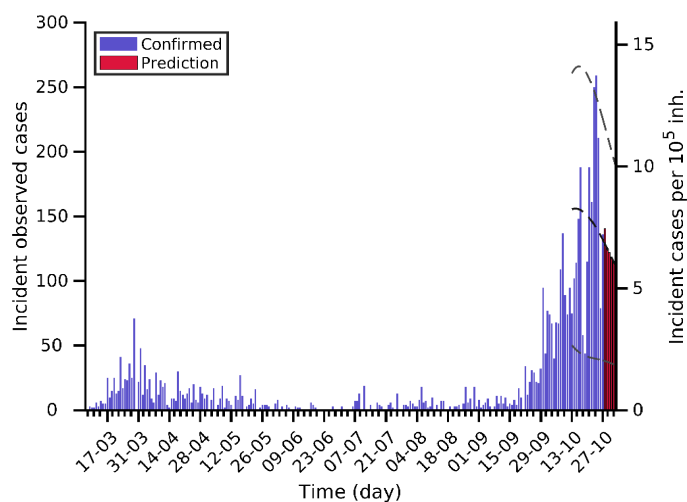


Predictions for next days

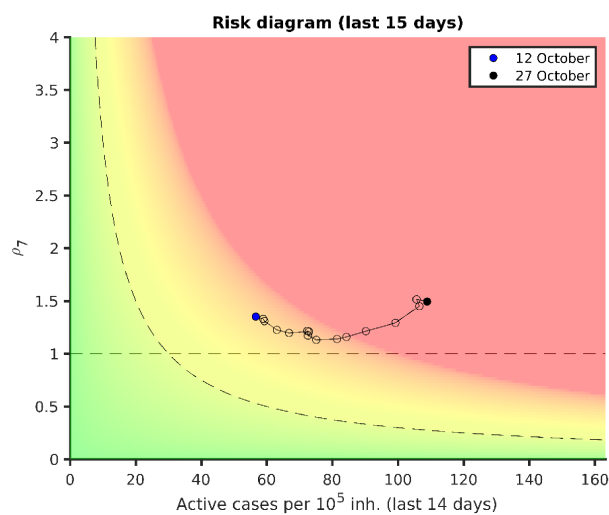
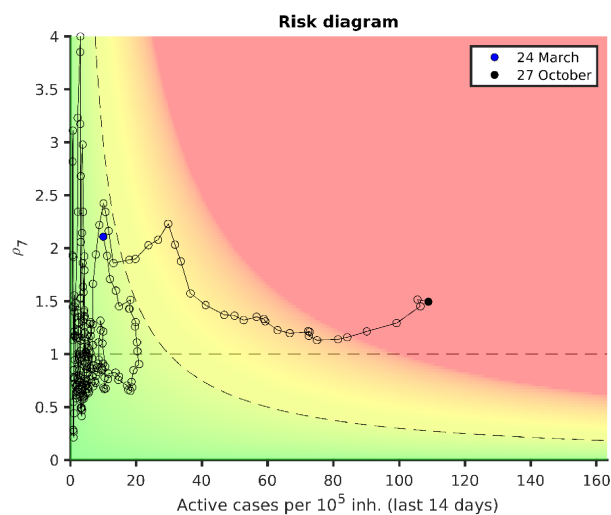
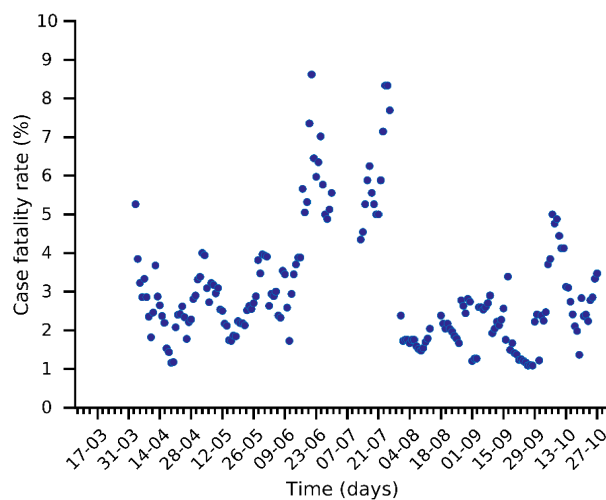
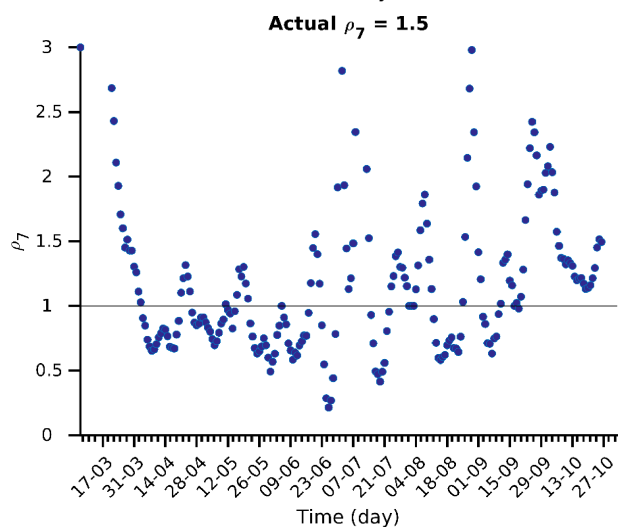
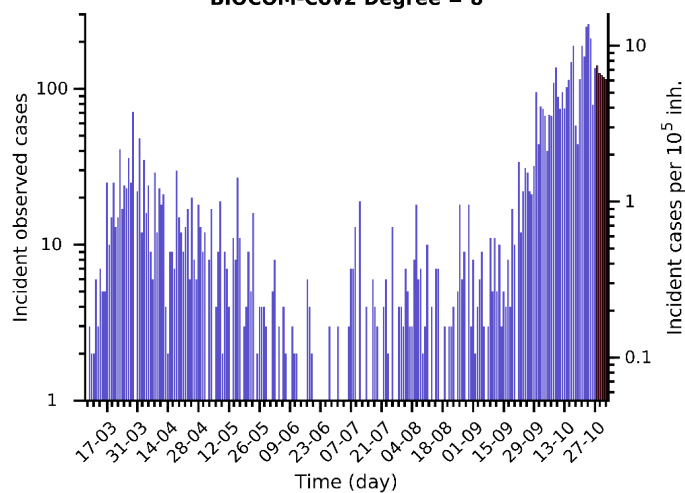
Day	Number of cases	95% Confidence Interval
28-10-2020	5033 (+140)	[4893 - 5684]
30-10-2020	5281 (+122)	[4893 - 5954]
01-11-2020	5514 (+115)	[4893 - 6235]

Current indicators

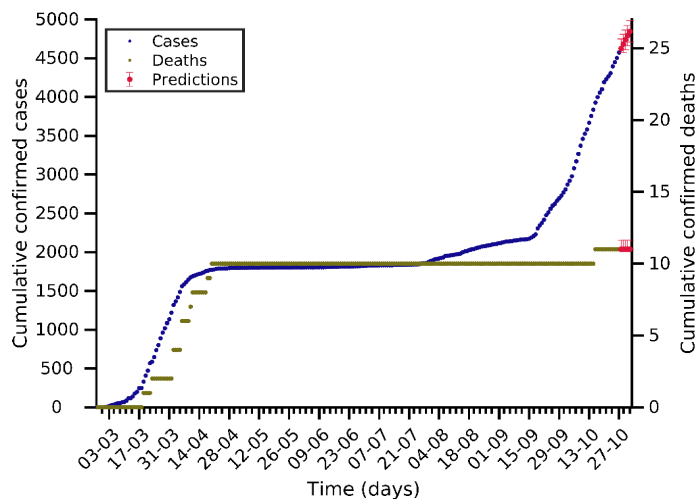
A ₁₄	EPG	CFR
109	163	3.47 %



BIOCOM-Cov2 Degree = 8



Iceland 27-10-2020. Pop: 0.3M. Cumulative incidence: 1340/10⁵

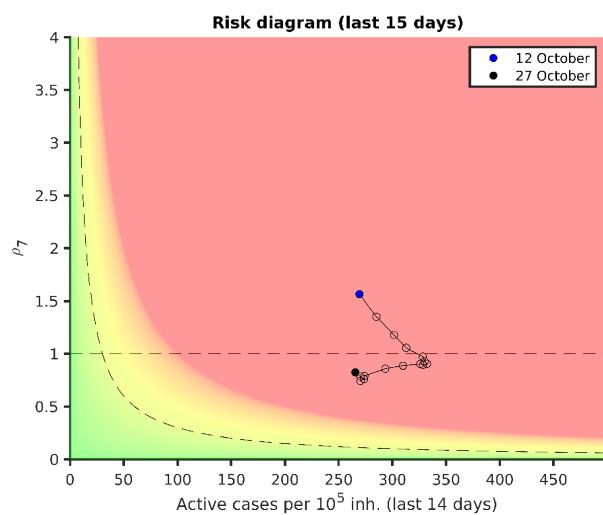
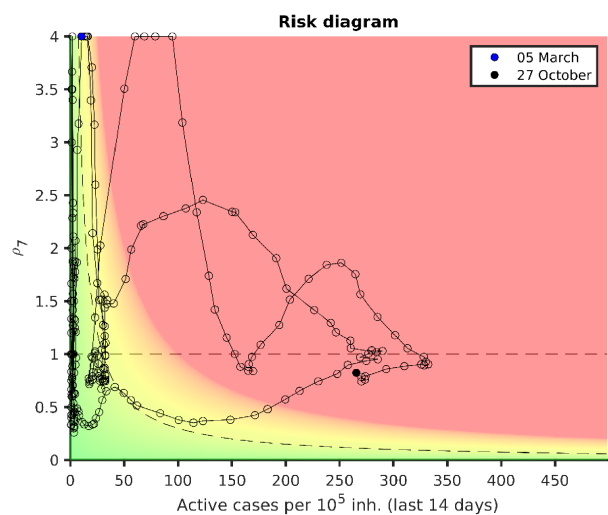
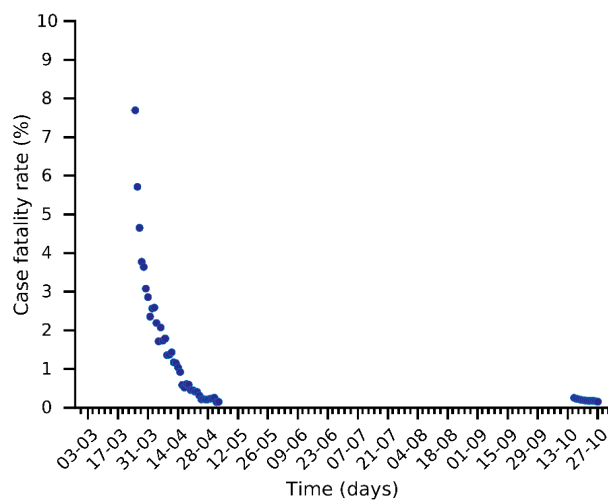
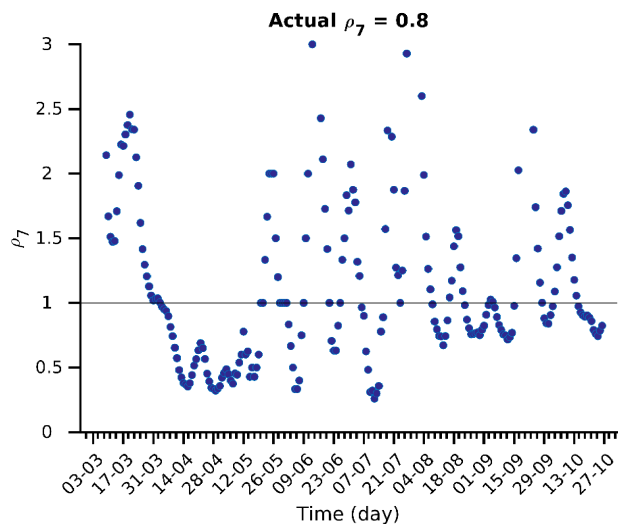
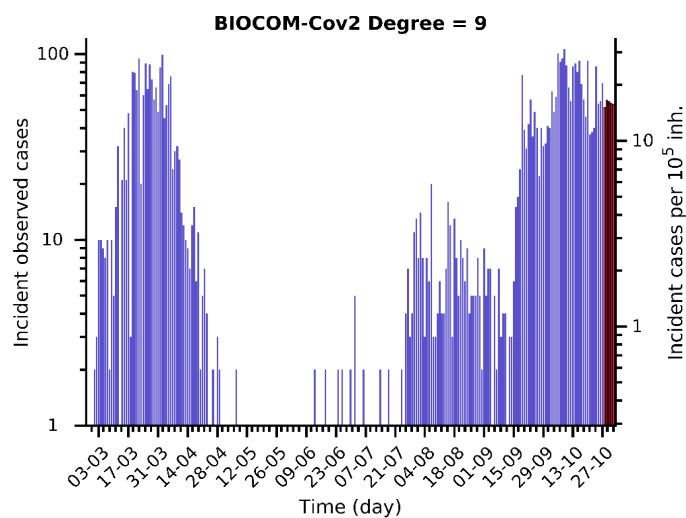
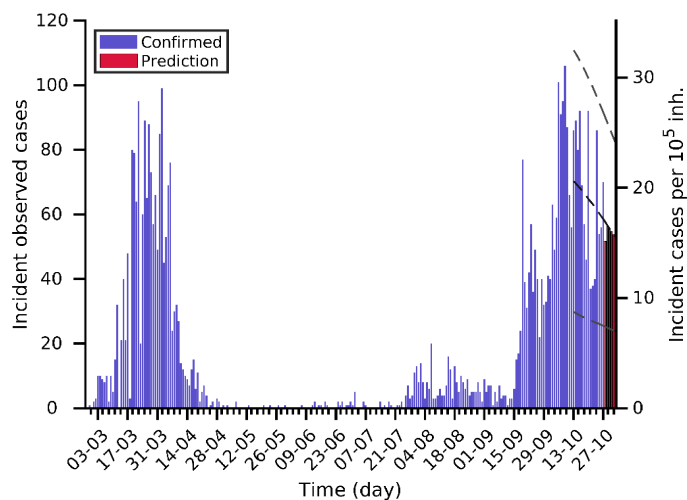


Predictions for next days

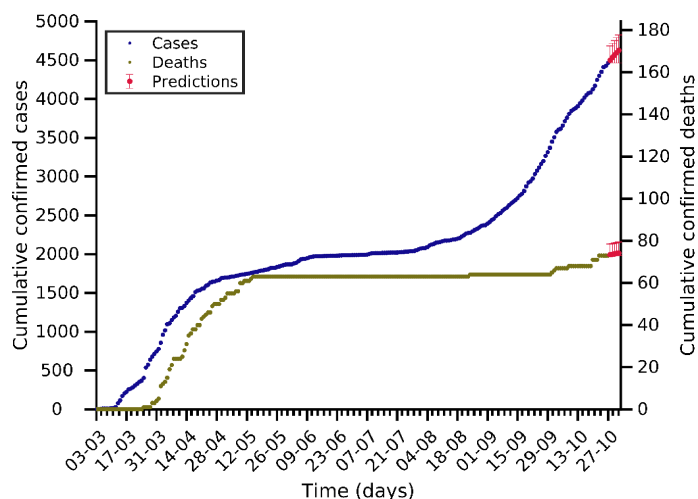
Day	Number of cases	95% Confidence Interval
28-10-2020	4626 (+52)	[4574 - 4749]
30-10-2020	4738 (+56)	[4610 - 4866]
01-11-2020	4846 (+54)	[4709 - 4983]

Current indicators

A ₁₄	EPG	CFR
265	219	0.15 %



Estonia 27-10-2020. Pop: 1.3M. Cumulative incidence: 337/10⁵

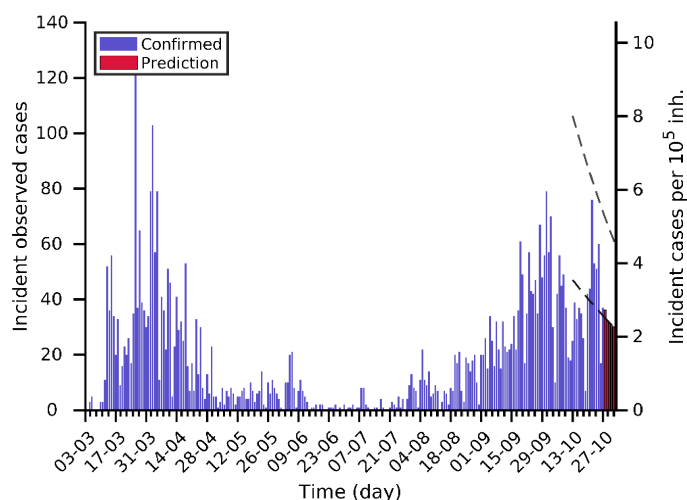


Predictions for next days

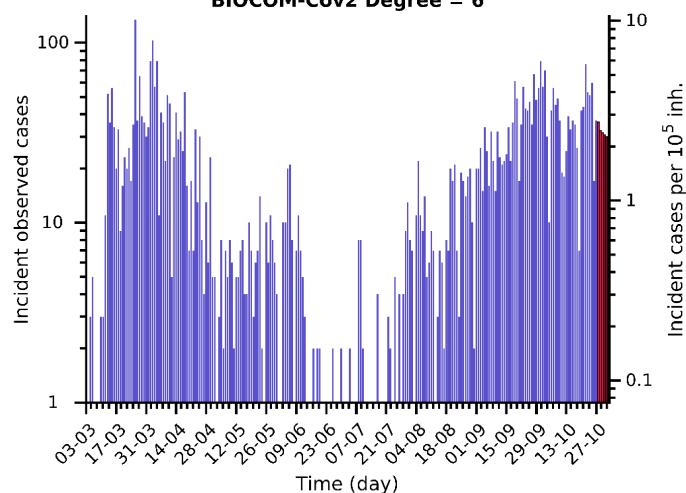
Day	Number of cases	95% Confidence Interval
28-10-2020	4501 (+36)	[4465 - 4684]
30-10-2020	4565 (+32)	[4465 - 4754]
01-11-2020	4626 (+30)	[4465 - 4827]

Current indicators

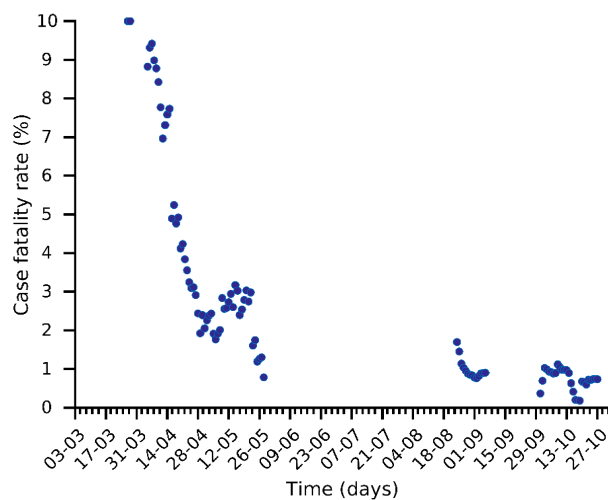
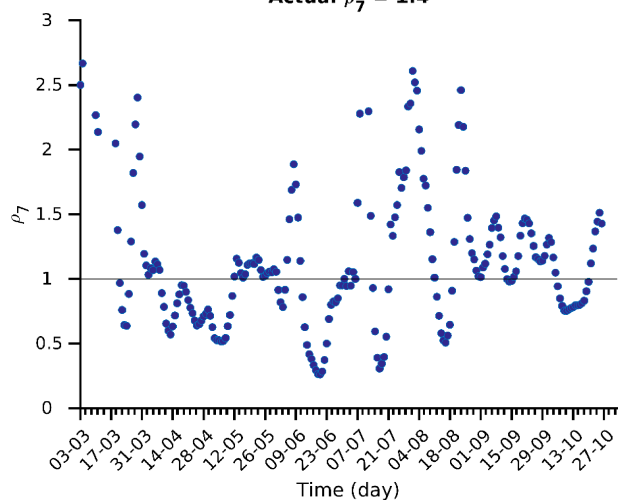
A ₁₄	EPG	CFR
42	60	0.73 %



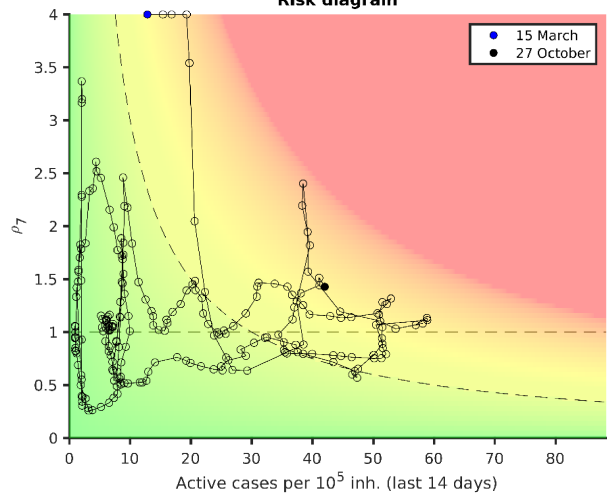
BIOCOM-Cov2 Degree = 6



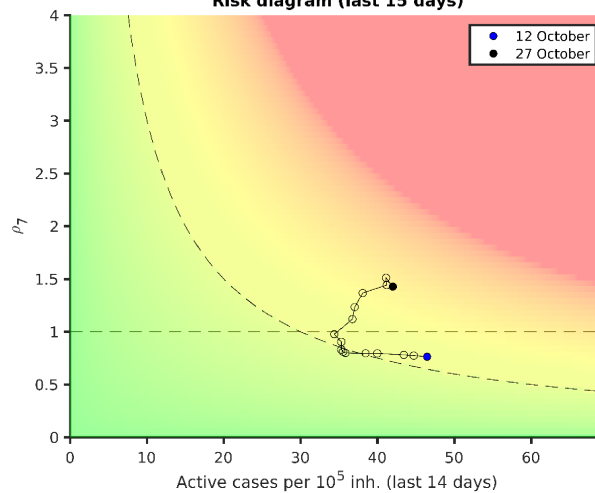
Actual $\rho_7 = 1.4$



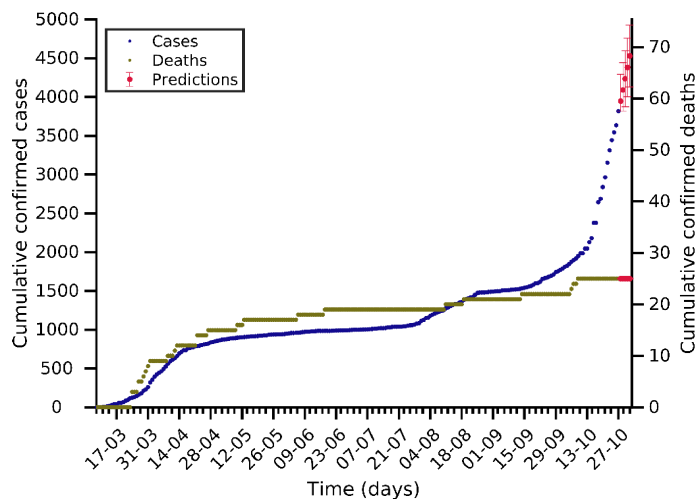
Risk diagram



Risk diagram (last 15 days)



Cyprus 27-10-2020. Pop: 1.2M. Cumulative incidence: 316/10⁵

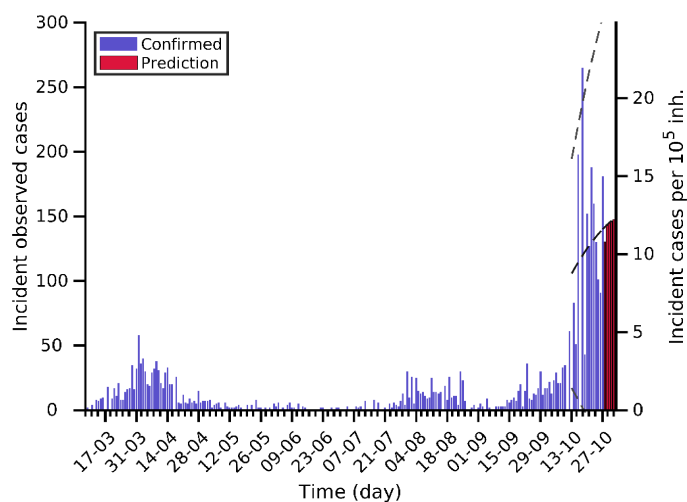


Predictions for next days

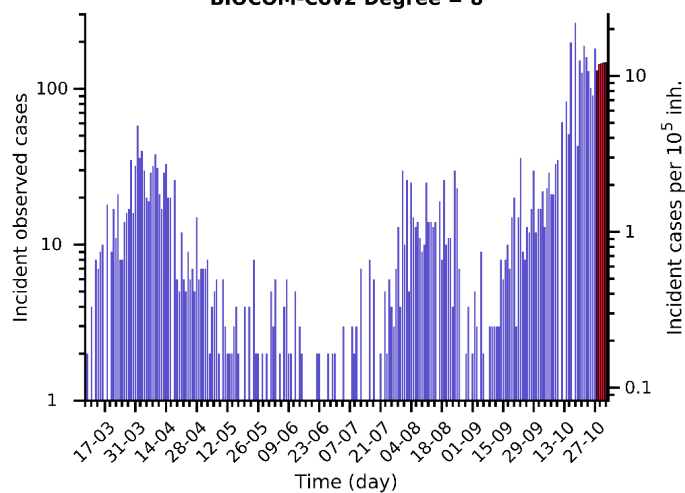
Day	Number of cases	95% Confidence Interval
28-10-2020	3947 (+130)	[3817 - 4292]
30-10-2020	4236 (+145)	[3874 - 4598]
01-11-2020	4530 (+148)	[4129 - 4930]

Current indicators

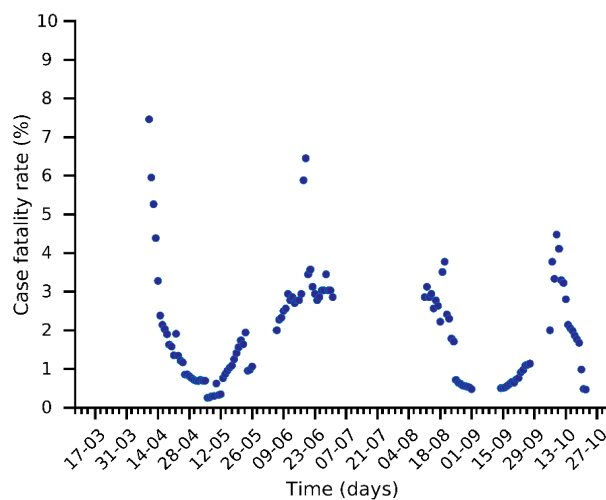
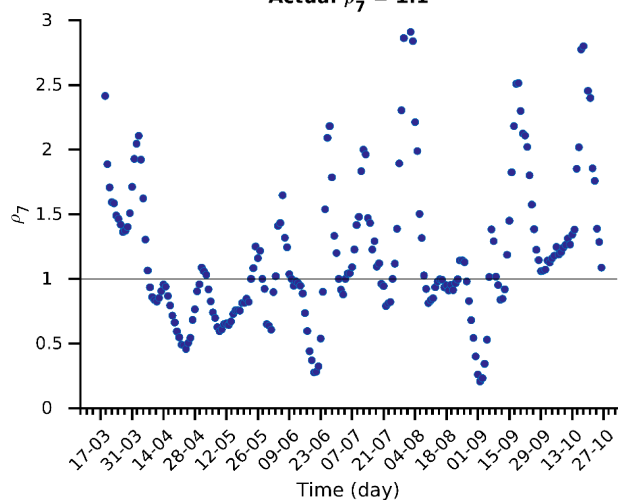
A ₁₄	EPG	CFR
147	159	0.00 %



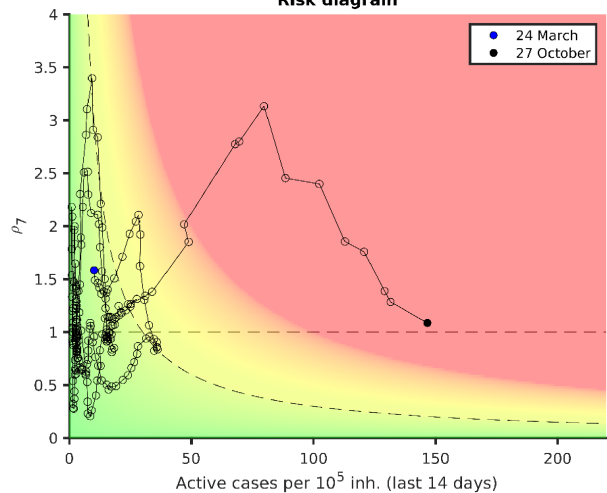
BIOCOM-Cov2 Degree = 8



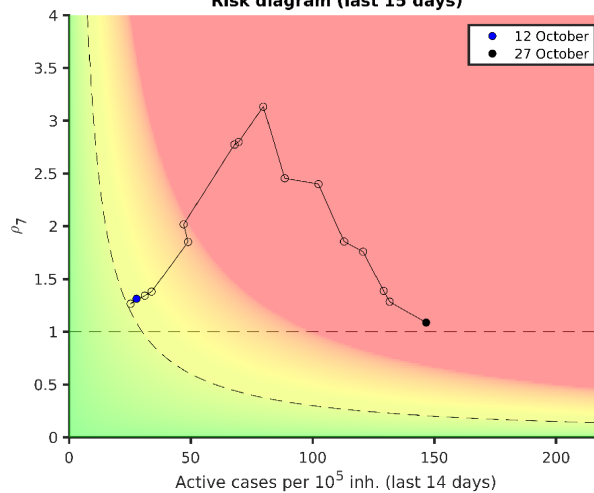
Actual $\rho_7 = 1.1$



Risk diagram

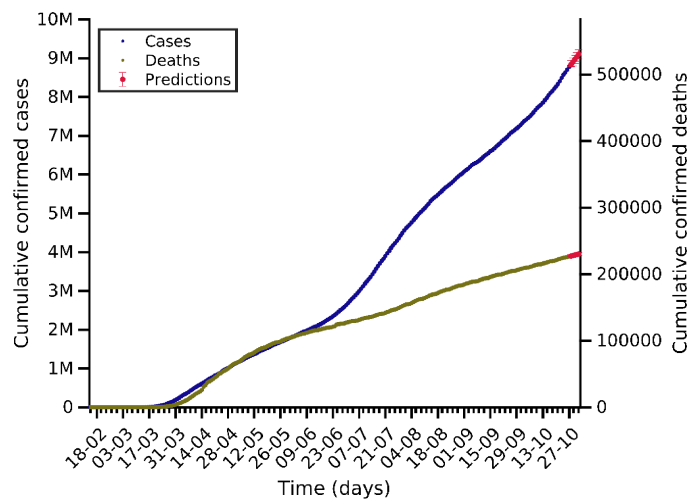


Risk diagram (last 15 days)



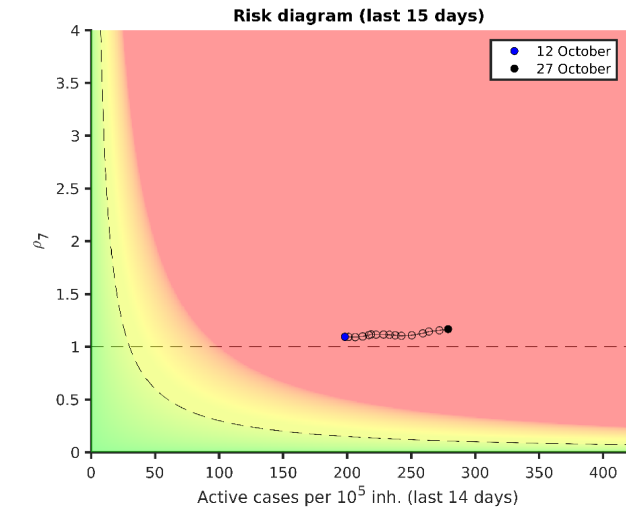
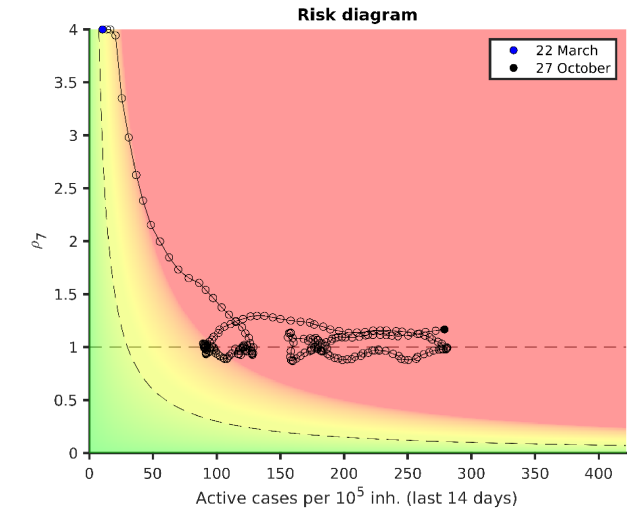
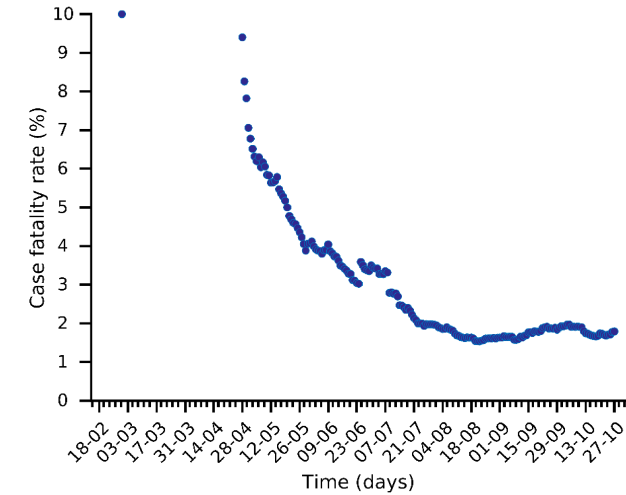
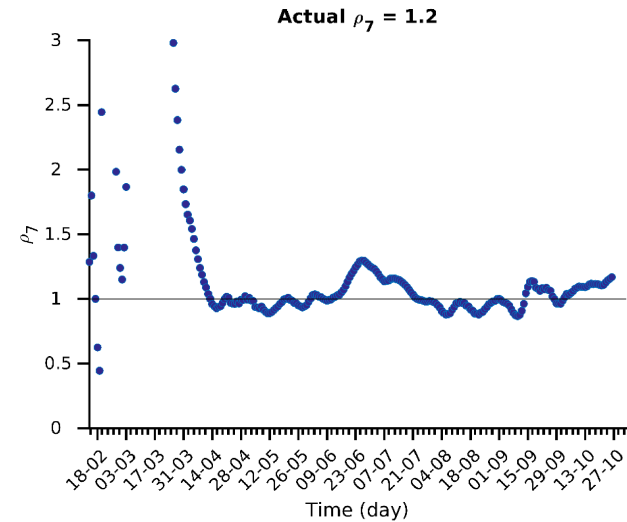
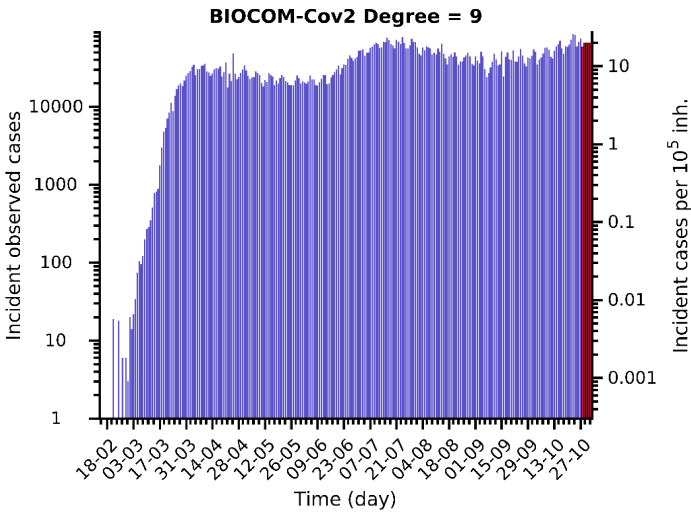
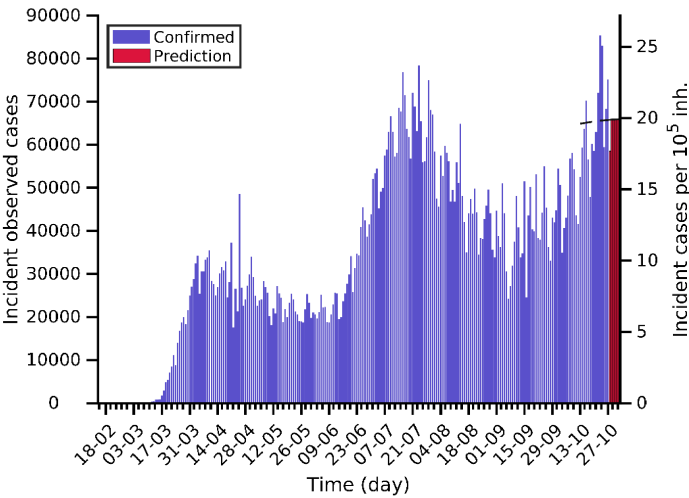
(2) Analysis and prediction of COVID-19 for other countries

USA 27-10-2020. Pop: 331.0M. Cumulative incidence: 2652/10⁵

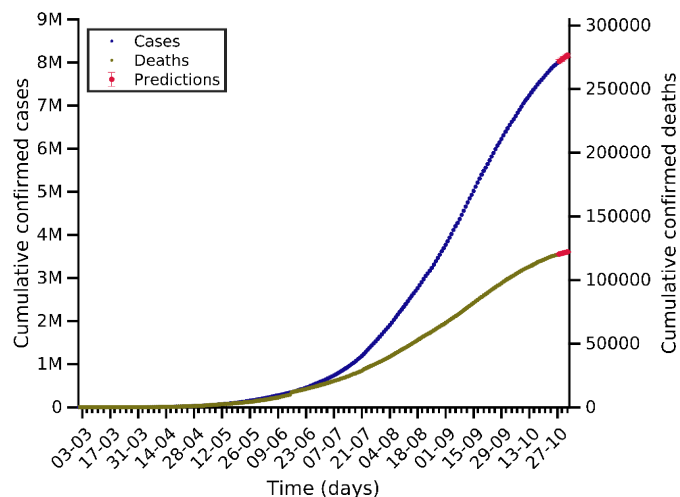


Predictions for next days		
Day	Number of cases	95% Confidence Interval
28-10-2020	8838206 (+58553)	[8779653 - 8941324]
30-10-2020	8969907 (+65866)	[8862681 - 9077134]
01-11-2020	9101720 (+65918)	[8985664 - 9217776]

Current indicators		
A ₁₄	EPG	CFR
279	326	1.79 %



India 27-10-2020. Pop: 1353.0M. Cumulative incidence: 591/10⁵

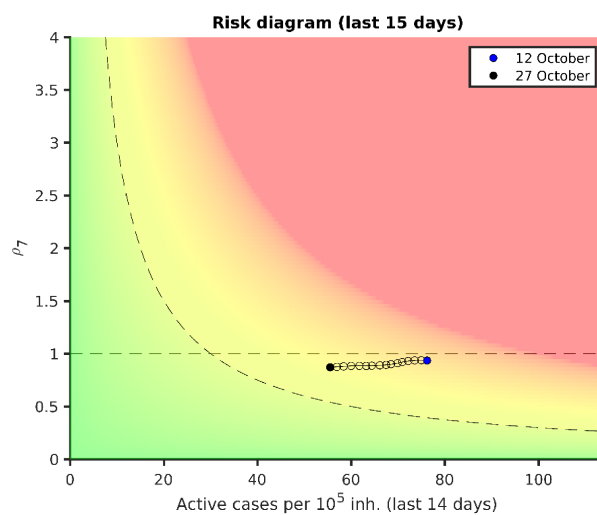
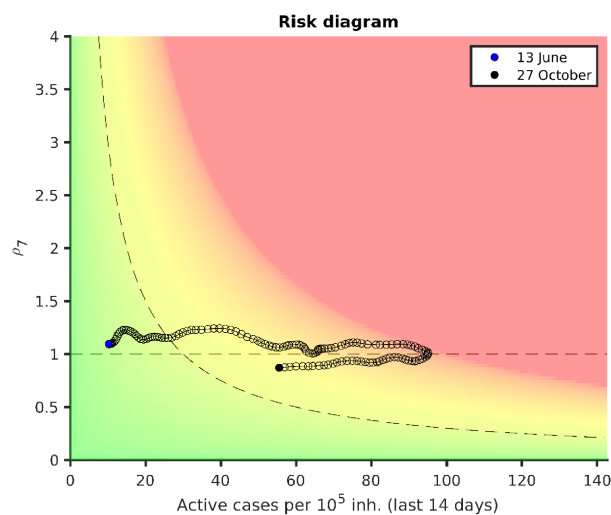
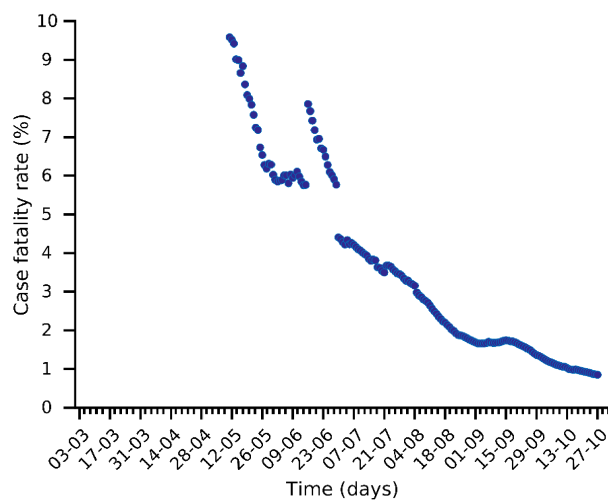
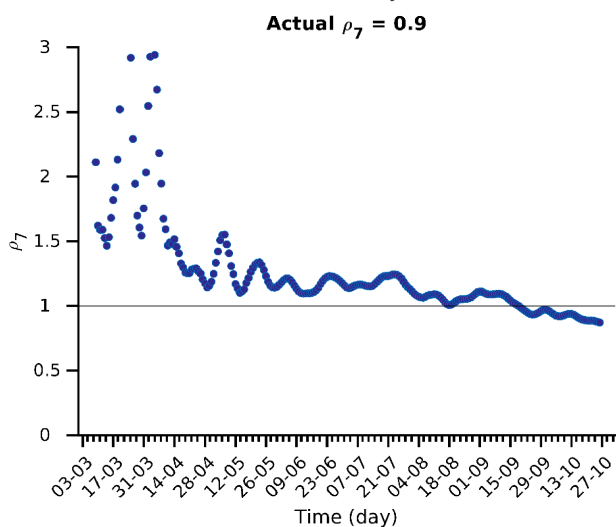
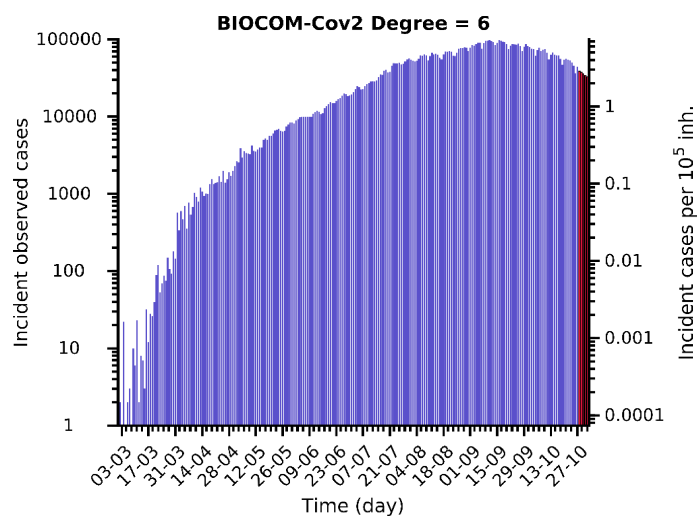
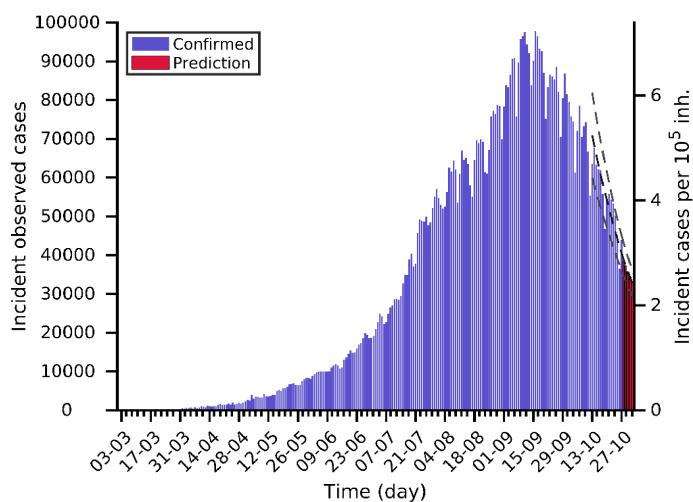


Predictions for next days

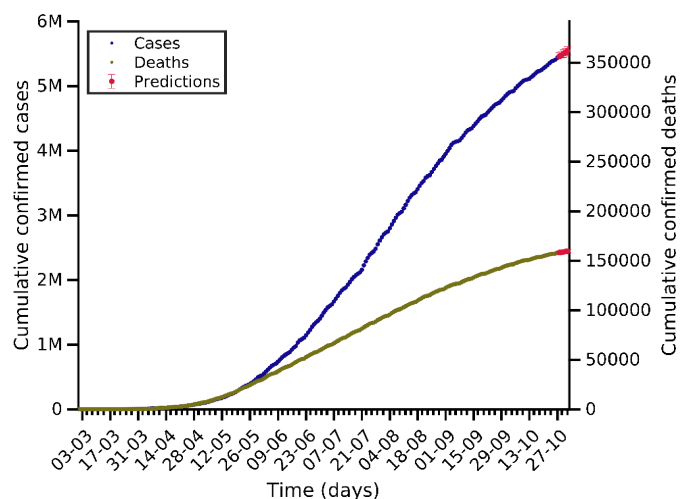
Day	Number of cases	95% Confidence Interval
28-10-2020	8028851 (+38529)	[7990322 - 8071270]
30-10-2020	8101937 (+35765)	[8058318 - 8145556]
01-11-2020	8169032 (+32827)	[8123164 - 8214900]

Current indicators

A ₁₄	EPG	CFR
56	48	0.85 %



Brazil 27-10-2020. Pop: 212.6M. Cumulative incidence: 2559/10⁵

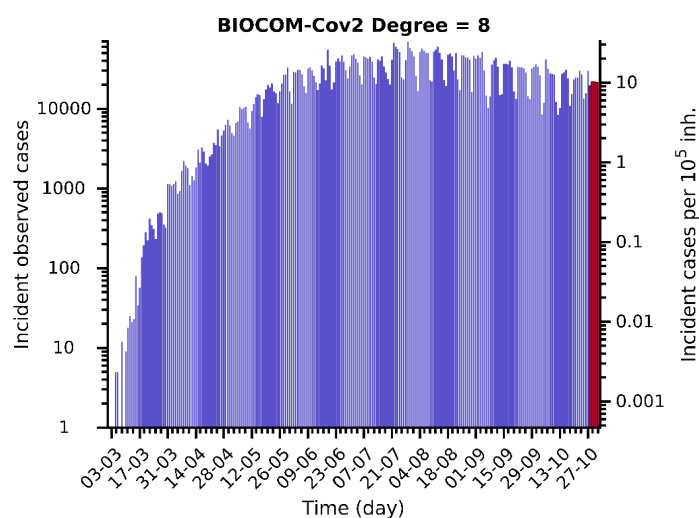
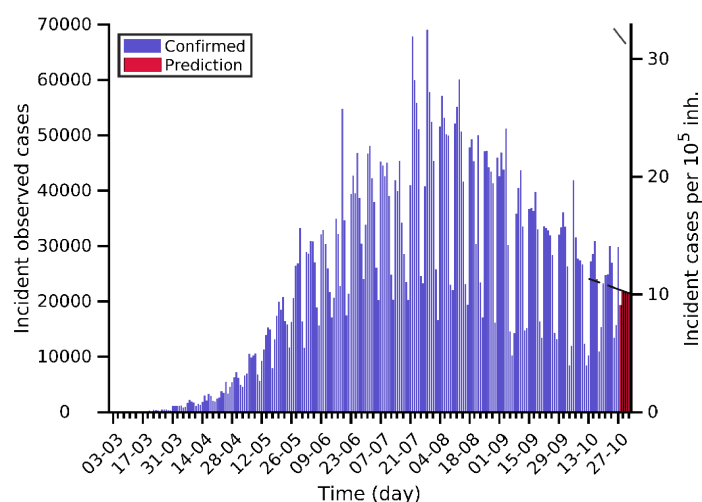


Predictions for next days

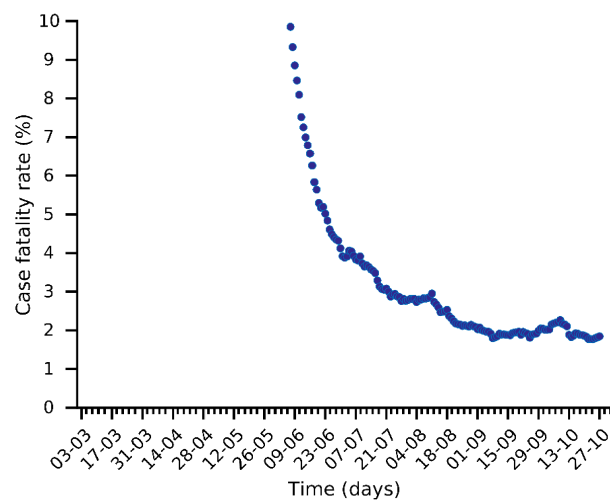
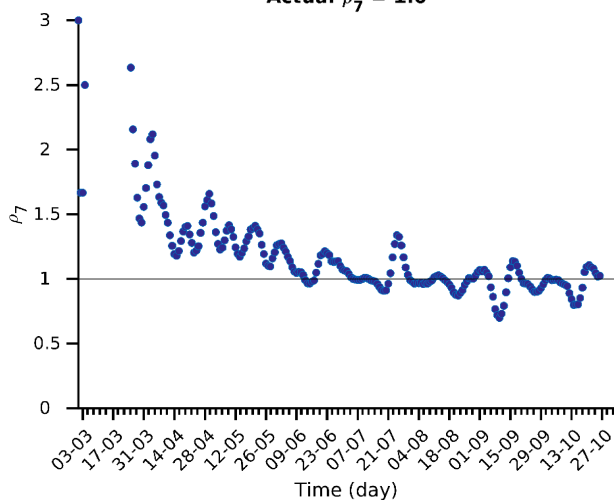
Day	Number of cases	95% Confidence Interval
28-10-2020	5458932 (+19291)	[5439641 - 5513539]
30-10-2020	5502649 (+21790)	[5446004 - 5559295]
01-11-2020	5545818 (+21516)	[5484901 - 5606734]

Current indicators

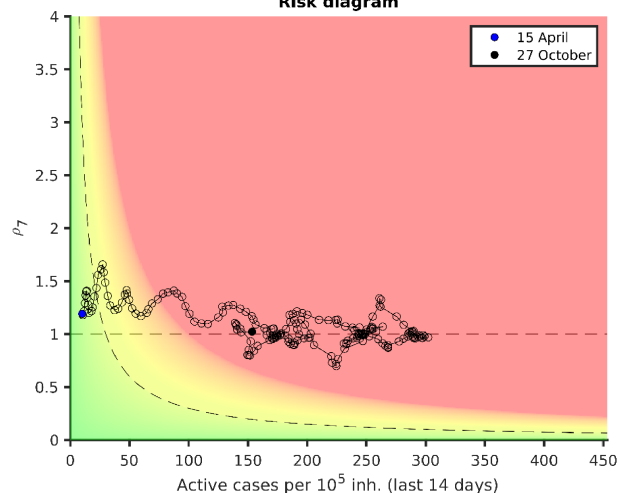
A ₁₄	EPG	CFR
153	157	1.84 %



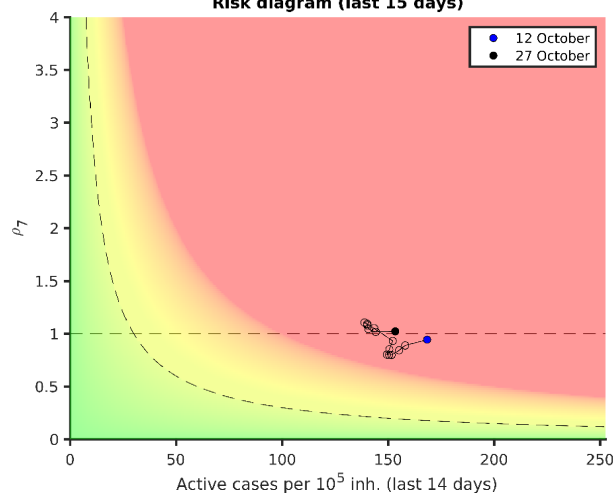
Actual $\rho_7 = 1.0$



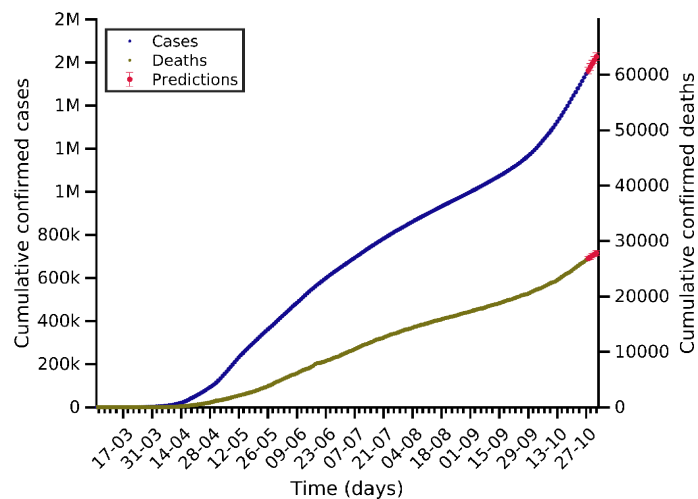
Risk diagram



Risk diagram (last 15 days)



Russia 27-10-2020. Pop: 145.9M. Cumulative incidence: 1061/10⁵

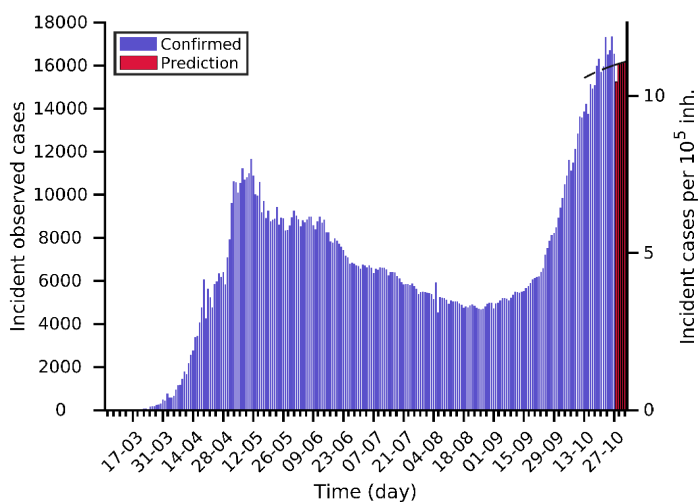


Predictions for next days

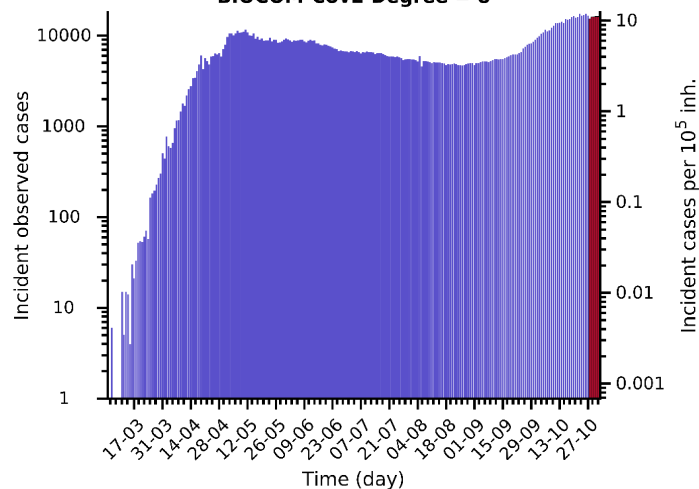
Day	Number of cases	95% Confidence Interval
28-10-2020	1563012 (+15238)	[1547774 - 1578288]
30-10-2020	1595217 (+16117)	[1579317 - 1611116]
01-11-2020	1627536 (+16173)	[1610288 - 1644783]

Current indicators

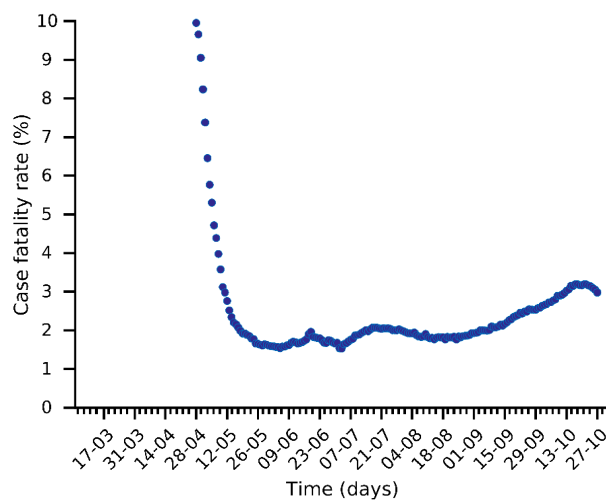
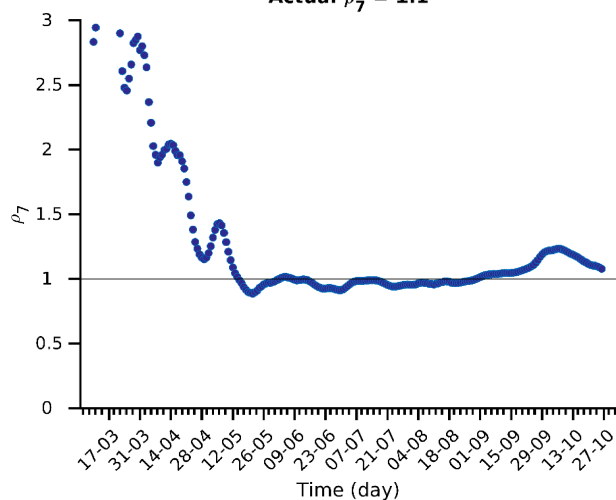
A ₁₄	EPG	CFR
152	164	2.98 %



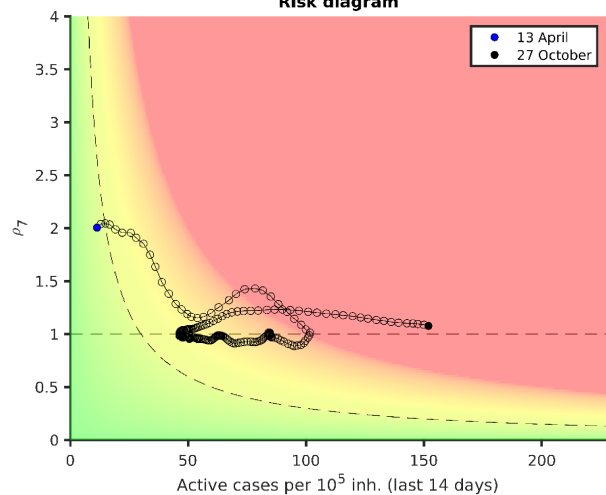
BIOCOM-Cov2 Degree = 8



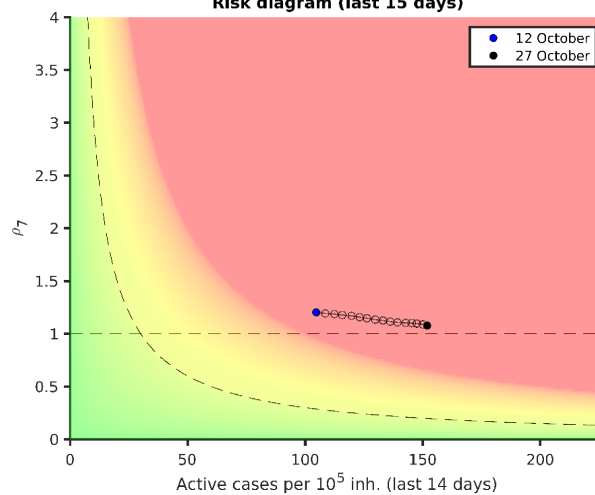
Actual $\rho_7 = 1.1$



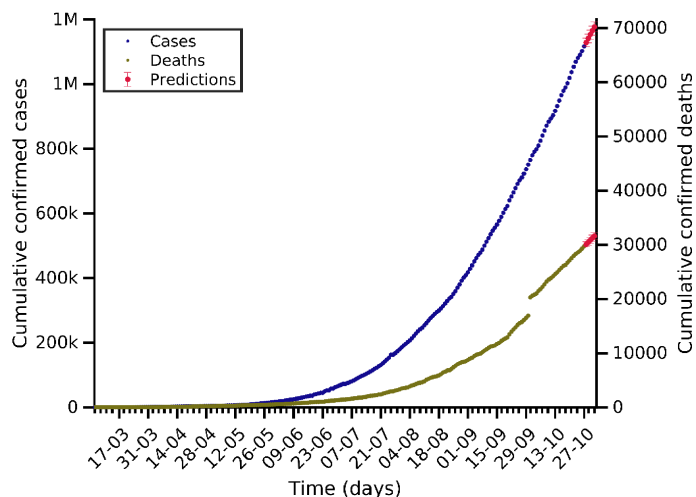
Risk diagram



Risk diagram (last 15 days)



Argentina 27-10-2020. Pop: 45.2M. Cumulative incidence: 2471/10⁵

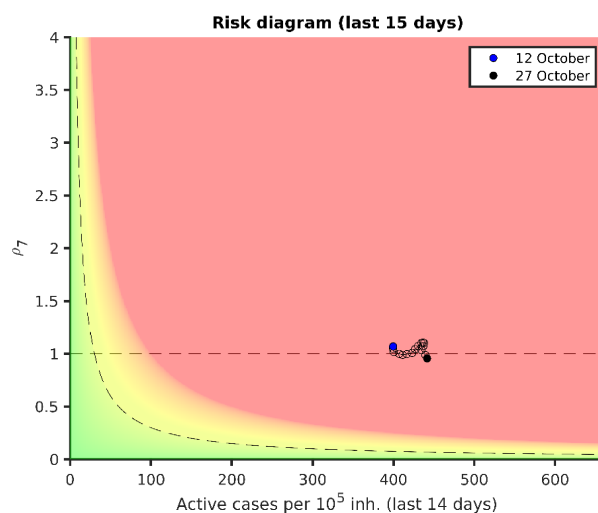
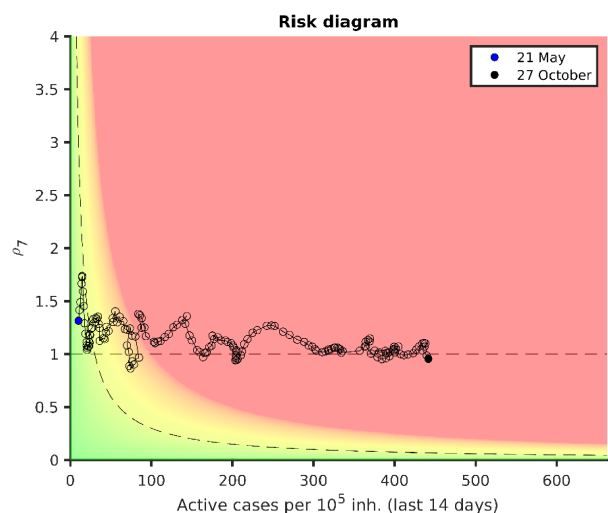
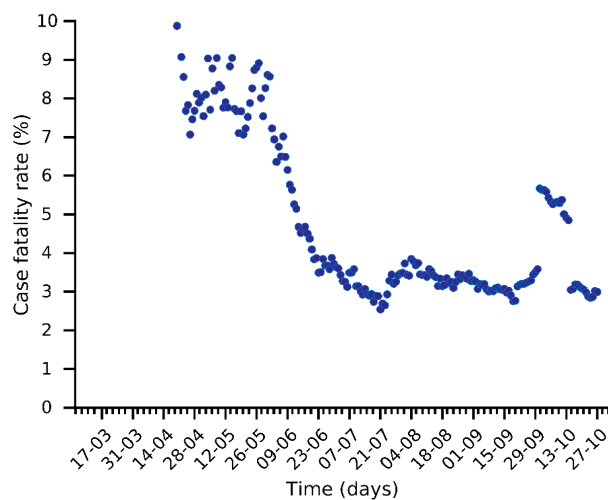
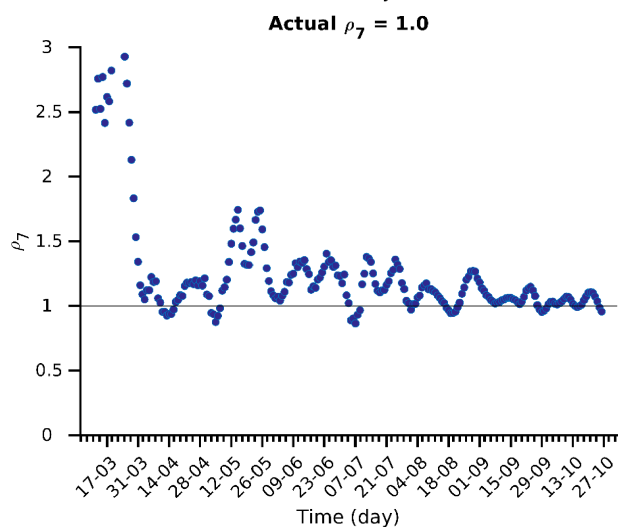
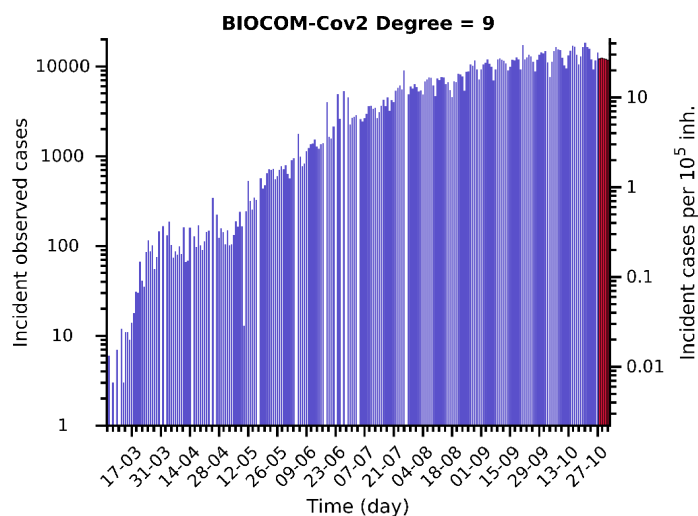
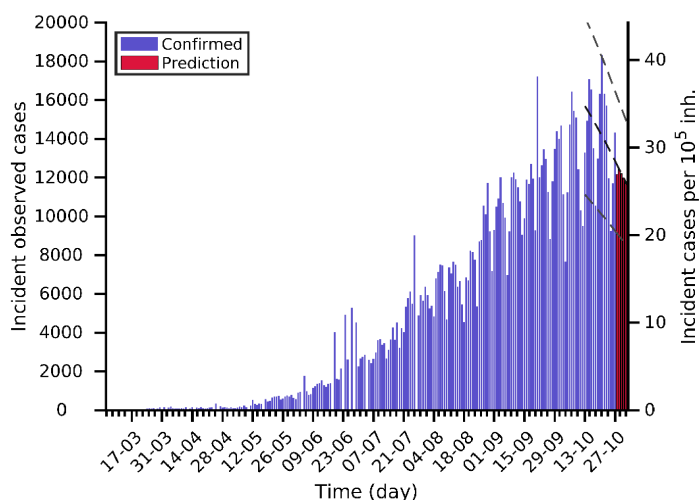


Predictions for next days

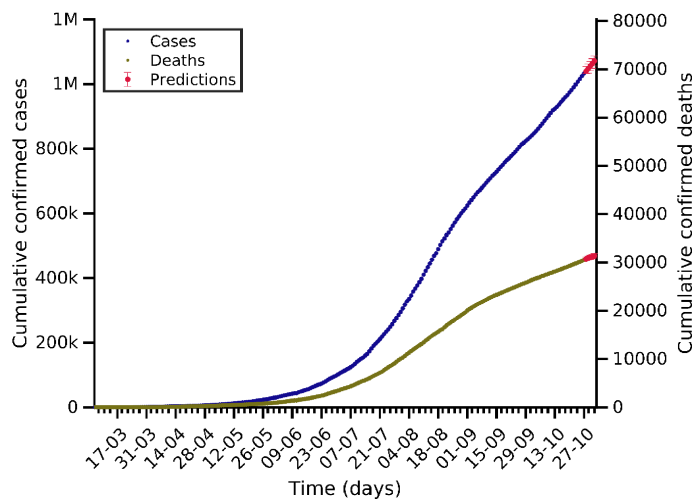
Day	Number of cases	95% Confidence Interval
28-10-2020	1128753 (+12157)	[1116596 - 1142188]
30-10-2020	1153379 (+12204)	[1139467 - 1167291]
01-11-2020	1177136 (+11770)	[1162251 - 1192021]

Current indicators

A ₁₄	EPG	CFR
442	422	2.99 %



Colombia 27-10-2020. Pop: 50.9M. Cumulative incidence: 2031/10⁵

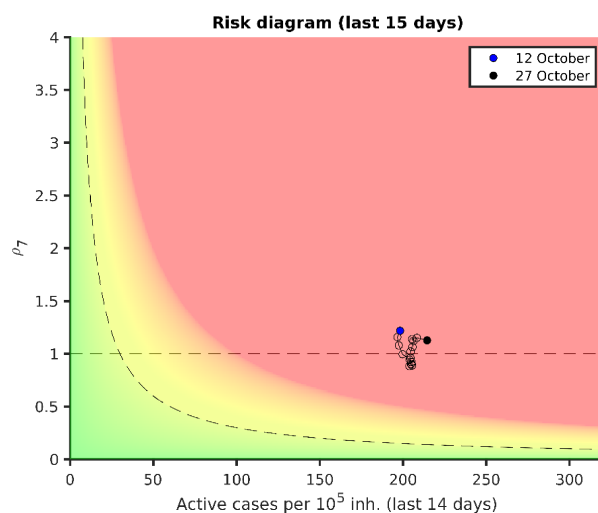
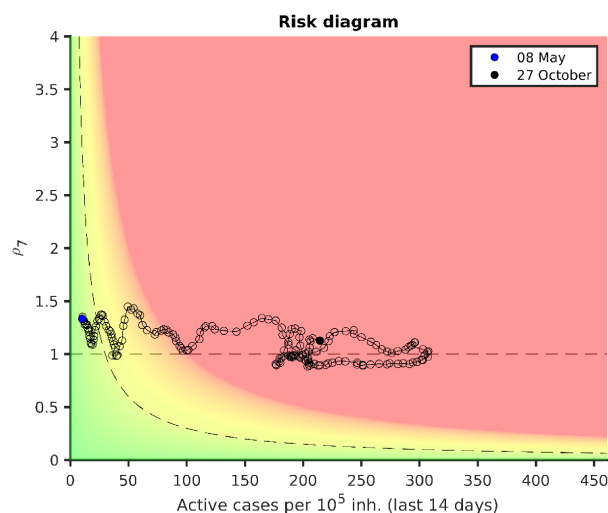
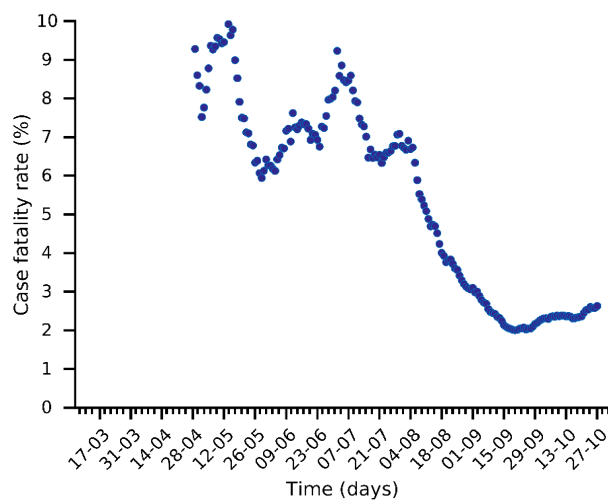
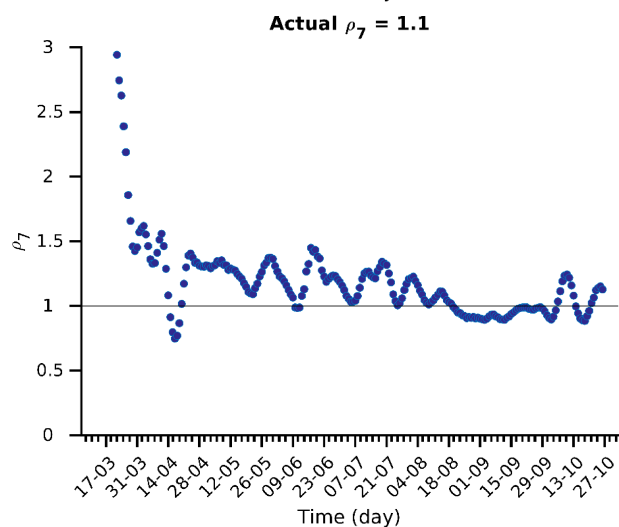
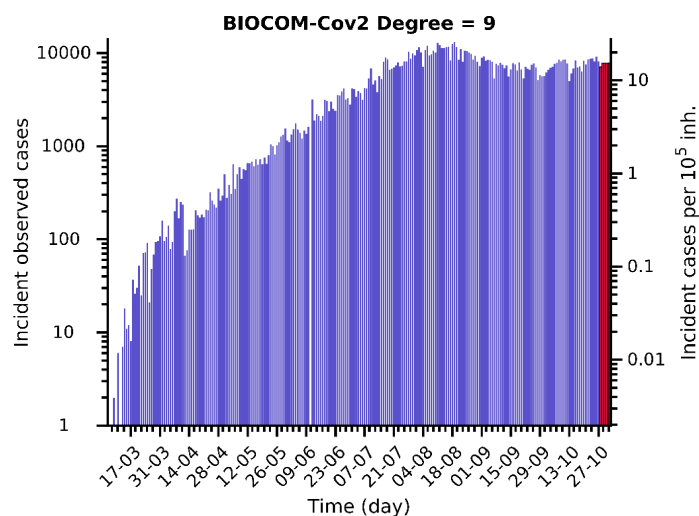
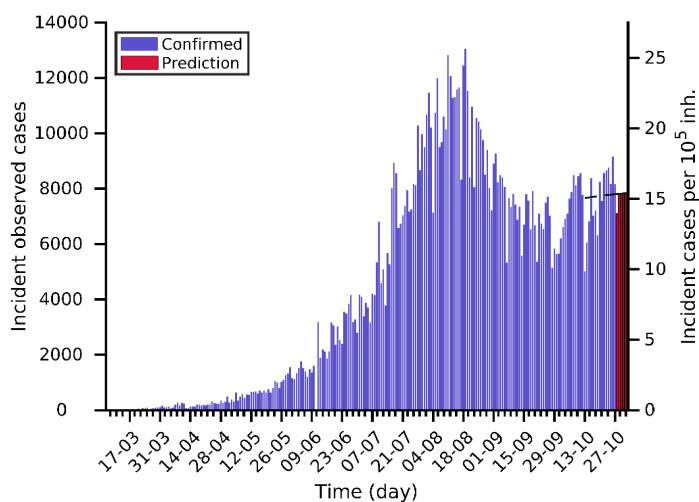


Predictions for next days

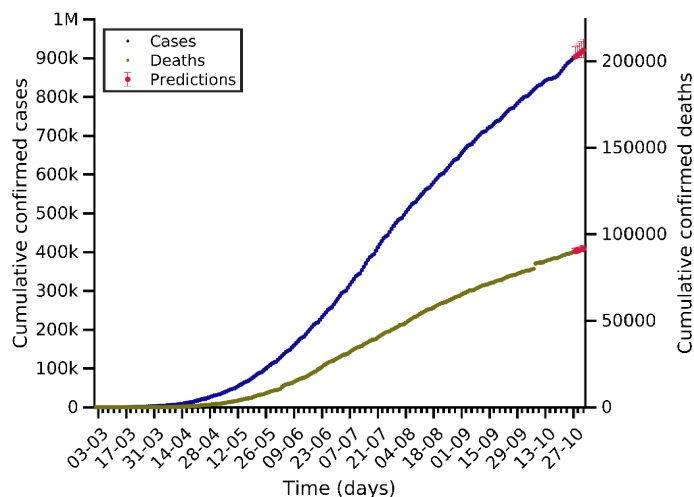
Day	Number of cases	95% Confidence Interval
28-10-2020	1040315 (+7097)	[1033218 - 1054103]
30-10-2020	1055950 (+7821)	[1041610 - 1070289]
01-11-2020	1071608 (+7832)	[1056083 - 1087133]

Current indicators

A ₁₄	EPG	CFR
214	242	2.63 %



Mexico 27-10-2020. Pop: 128.9M. Cumulative incidence: 699/10⁵

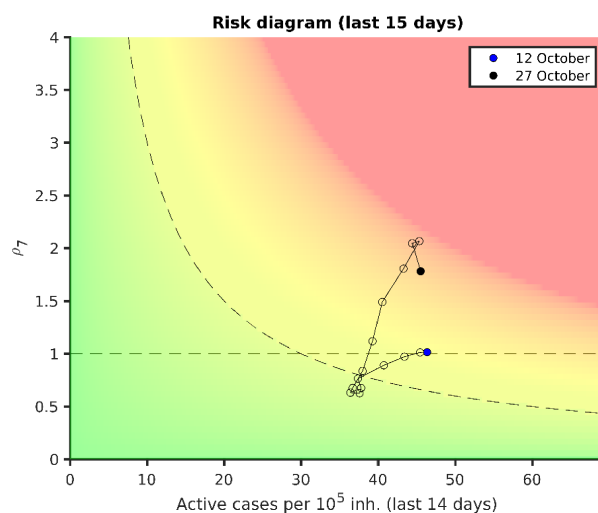
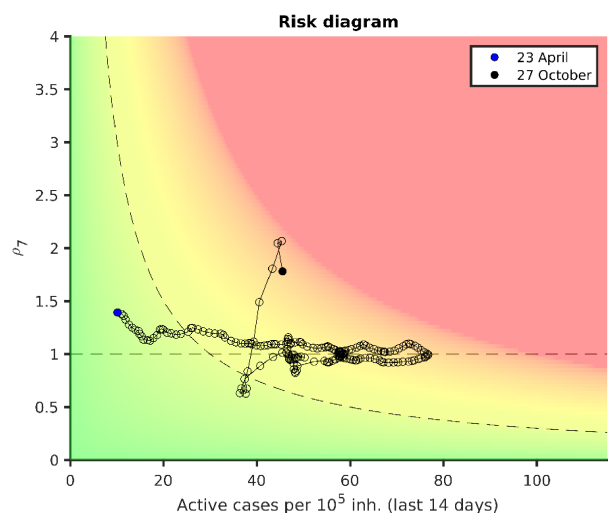
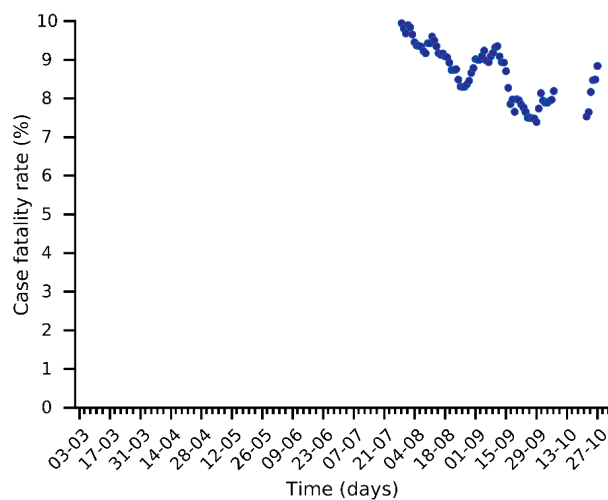
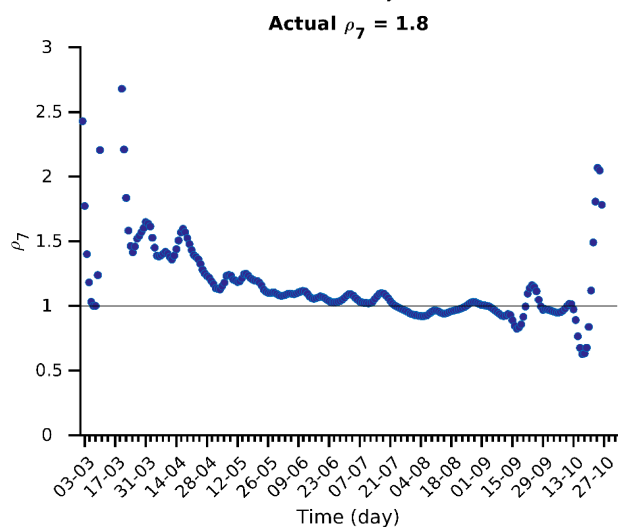
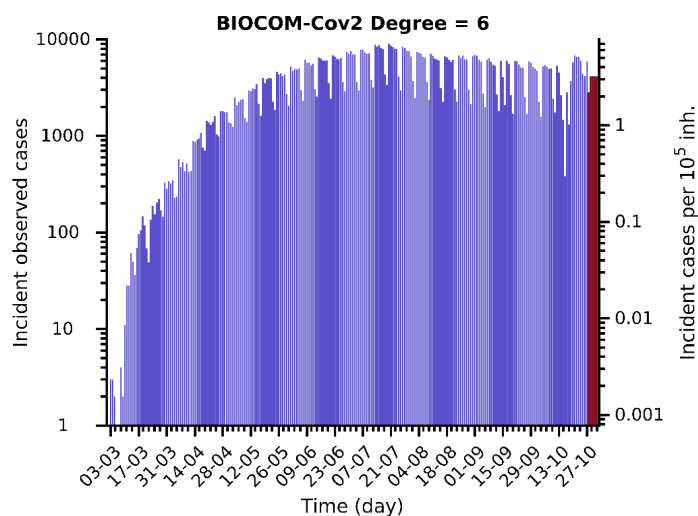
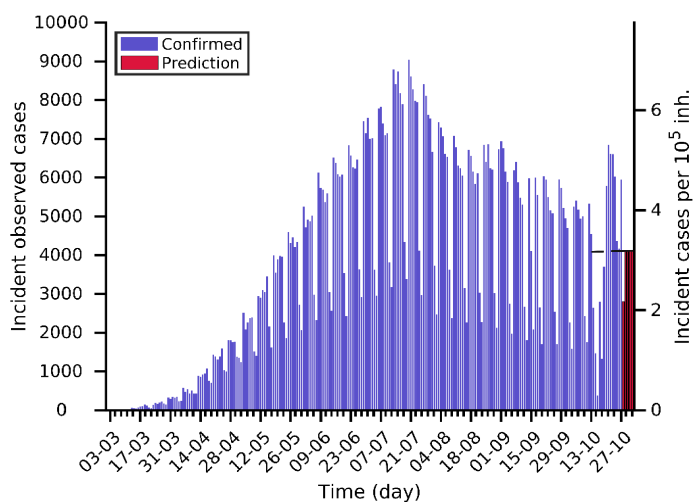


Predictions for next days

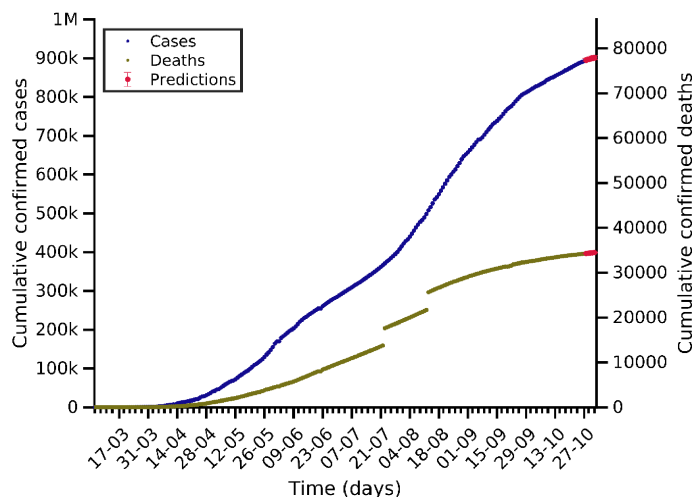
Day	Number of cases	95% Confidence Interval
28-10-2020	904068 (+2800)	[901268 - 929307]
30-10-2020	912284 (+4109)	[901268 - 938515]
01-11-2020	920504 (+4110)	[901268 - 948856]

Current indicators

A ₁₄	EPG	CFR
45	81	8.84 %



Peru 27-10-2020. Pop: 33.0M. Cumulative incidence: 2707/10⁵

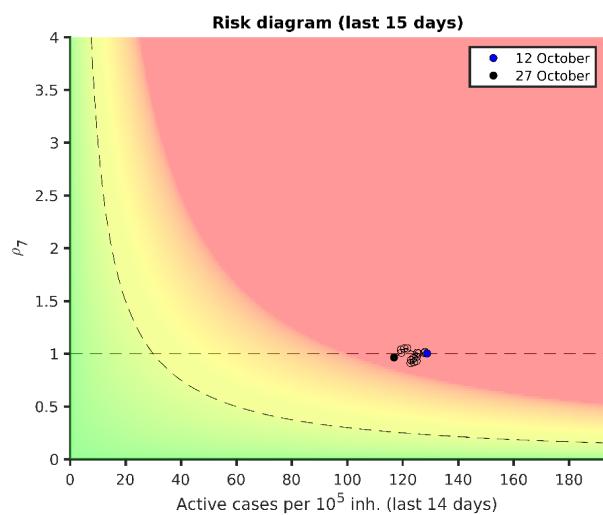
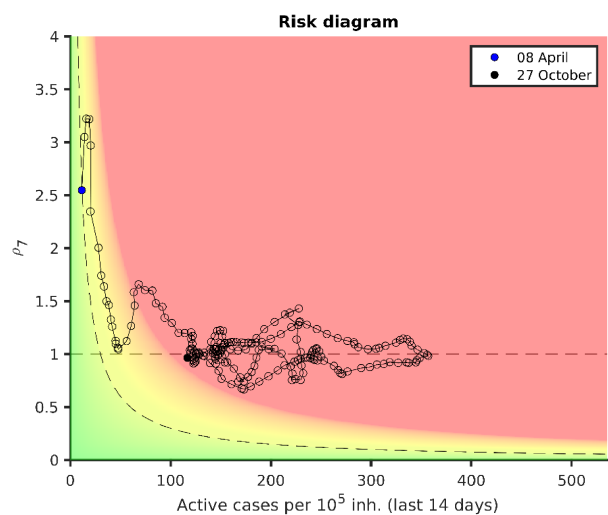
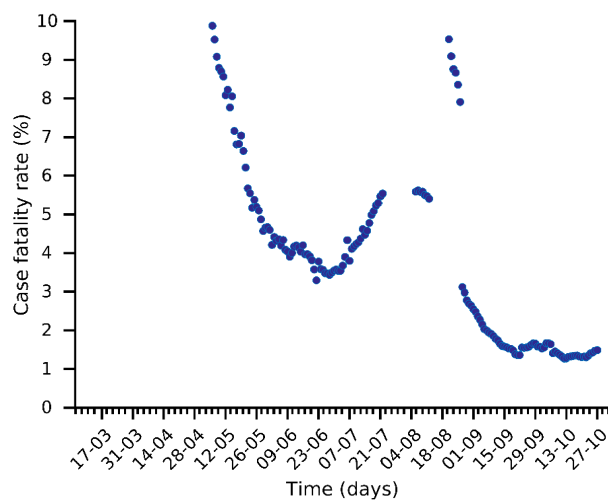
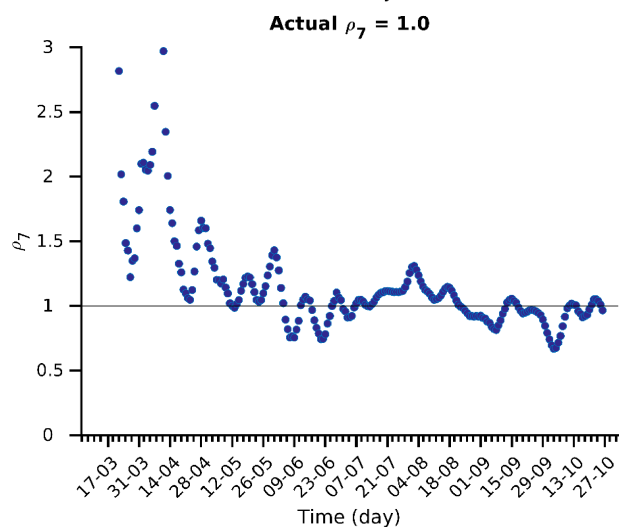
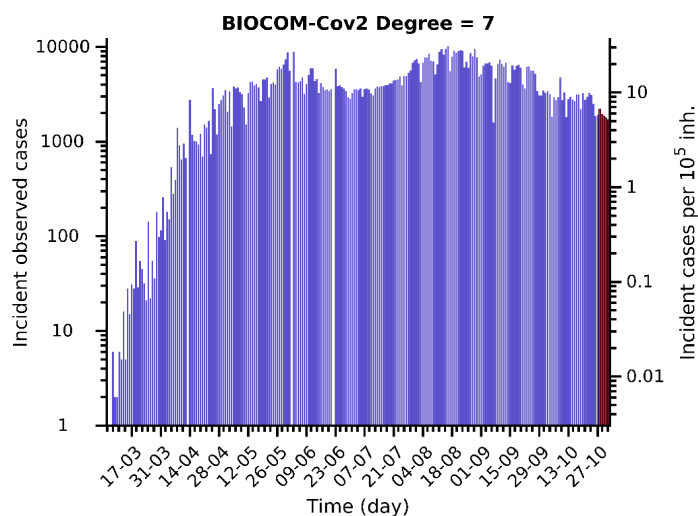
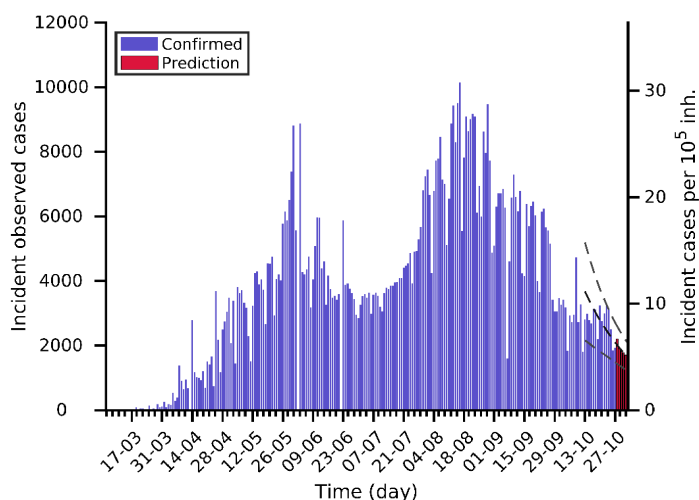


Predictions for next days

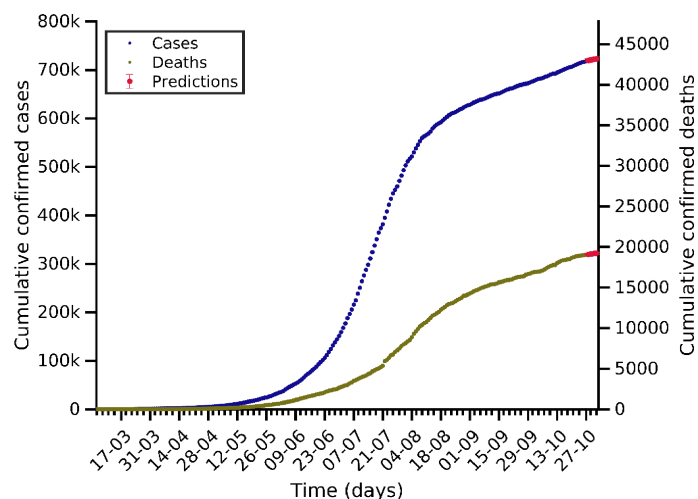
Day	Number of cases	95% Confidence Interval
28-10-2020	894704 (+2207)	[892497 - 899983]
30-10-2020	898493 (+1855)	[893065 - 903920]
01-11-2020	901982 (+1708)	[896275 - 907688]

Current indicators

A ₁₄	EPG	CFR
117	113	1.49 %



South Africa 27-10-2020. Pop: 59.3M. Cumulative incidence: 1210/10⁵

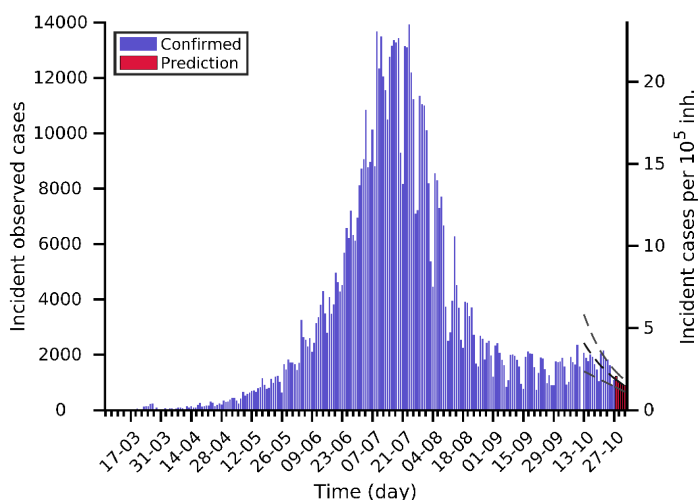


Predictions for next days

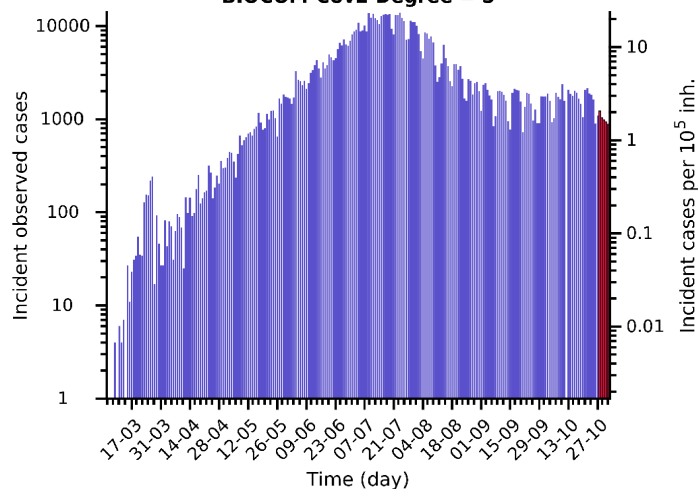
Day	Number of cases	95% Confidence Interval
28-10-2020	719076 (+1225)	[717851 - 723189]
30-10-2020	721101 (+985)	[717851 - 725318]
01-11-2020	722918 (+884)	[718514 - 727322]

Current indicators

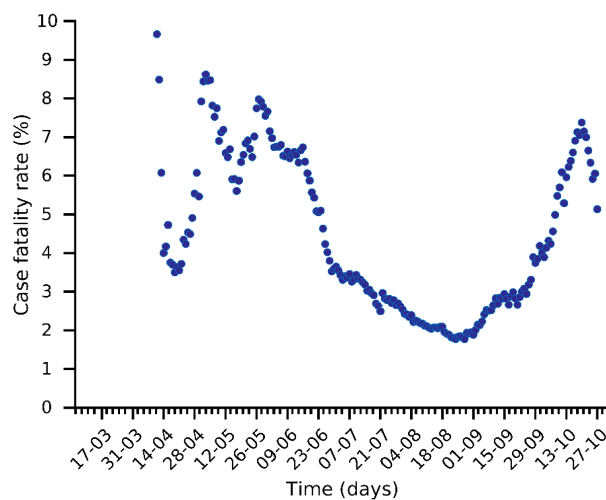
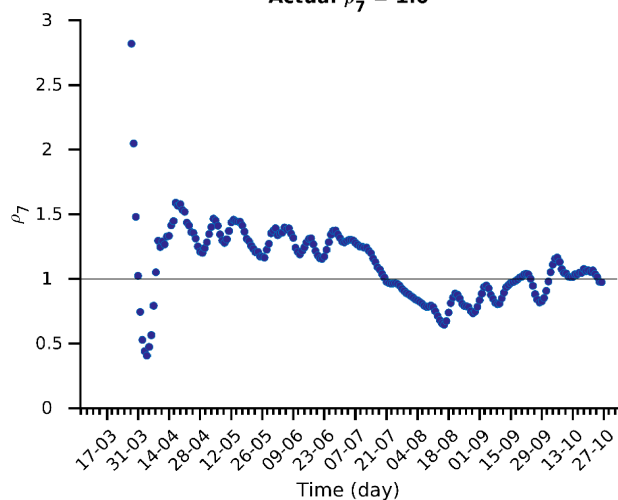
A ₁₄	EPG	CFR
39	38	5.14 %



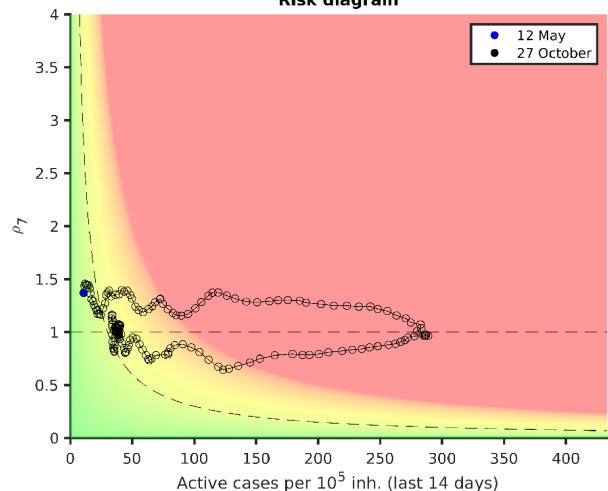
BIOCOM-Cov2 Degree = 5



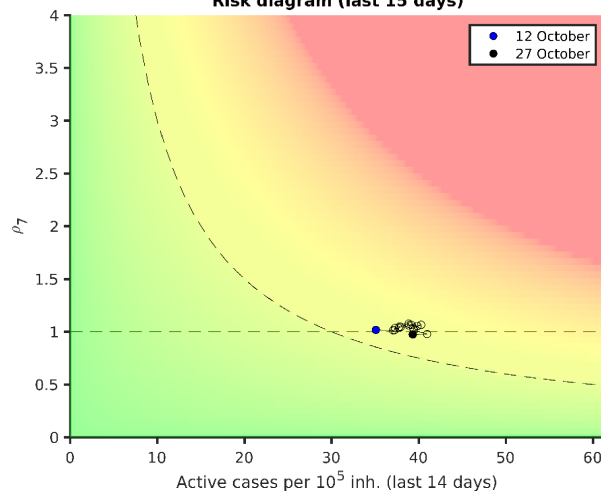
Actual $\rho_7 = 1.0$



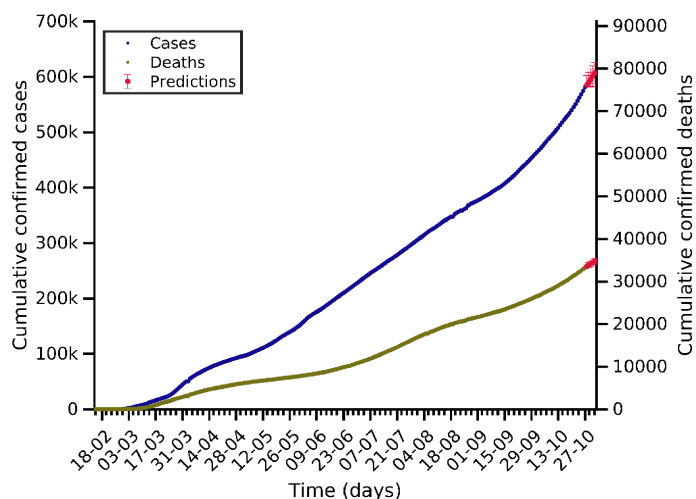
Risk diagram



Risk diagram (last 15 days)



Iran 27-10-2020. Pop: 84.0M. Cumulative incidence: 693/10⁵

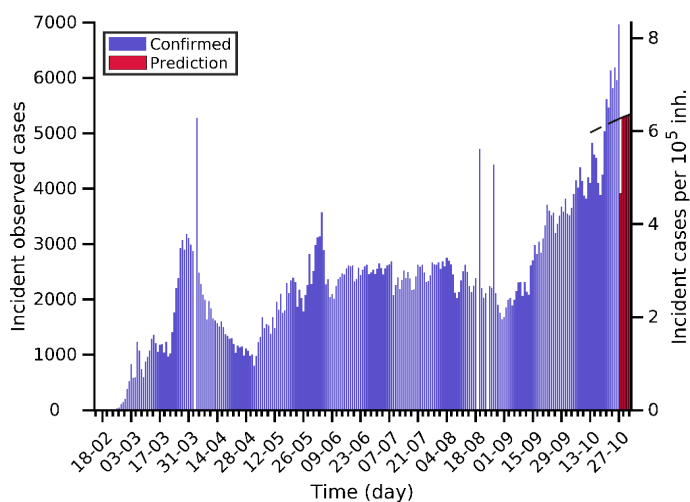


Predictions for next days

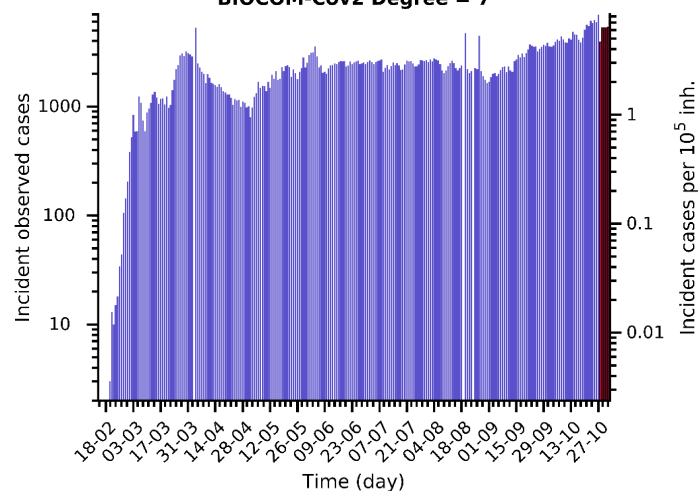
Day	Number of cases	95% Confidence Interval
28-10-2020	585734 (+3910)	[581824 - 602709]
30-10-2020	596331 (+5306)	[581824 - 613999]
01-11-2020	606989 (+5337)	[587817 - 626162]

Current indicators

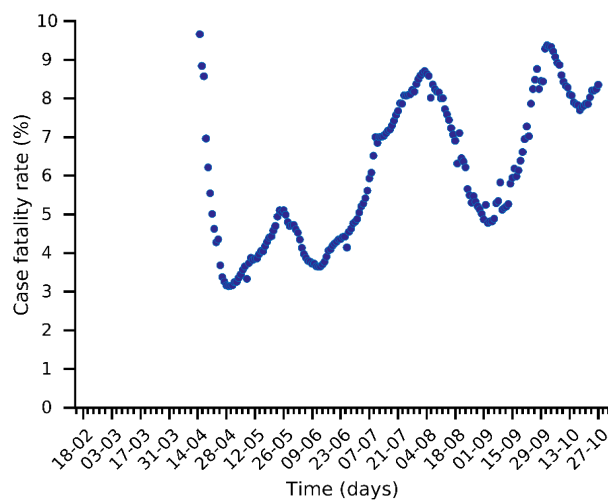
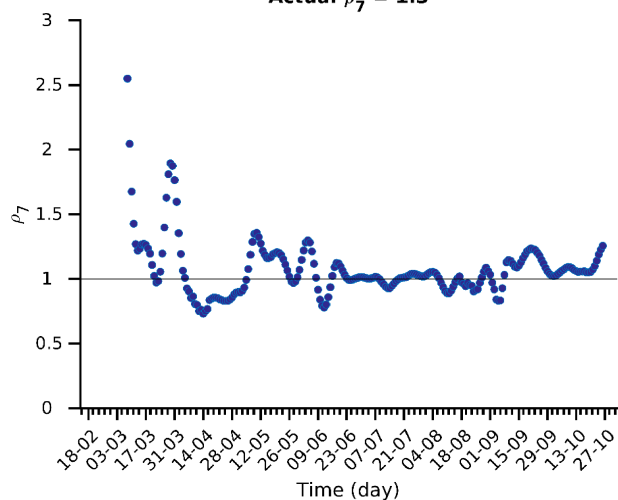
A ₁₄	EPG	CFR
87	110	8.35 %



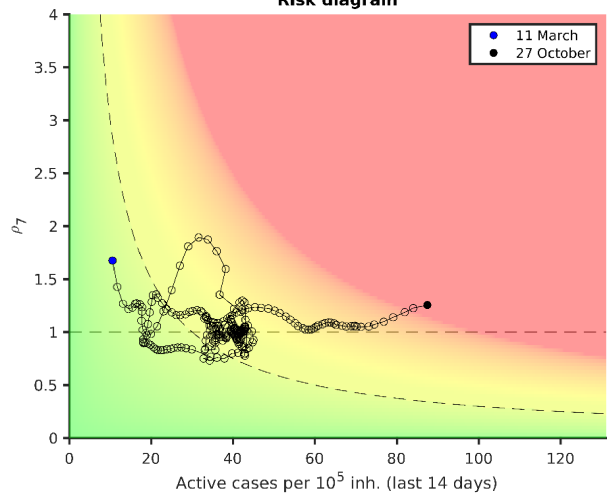
BIOCOM-Cov2 Degree = 7



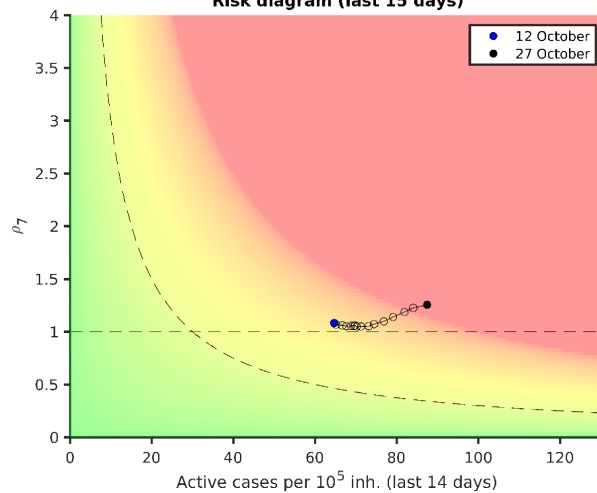
Actual $\rho_7 = 1.3$



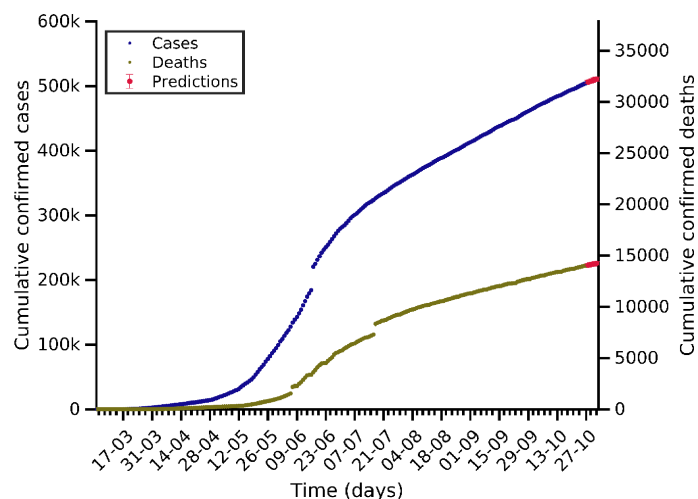
Risk diagram



Risk diagram (last 15 days)



Chile 27-10-2020. Pop: 19.1M. Cumulative incidence: 2639/10⁵

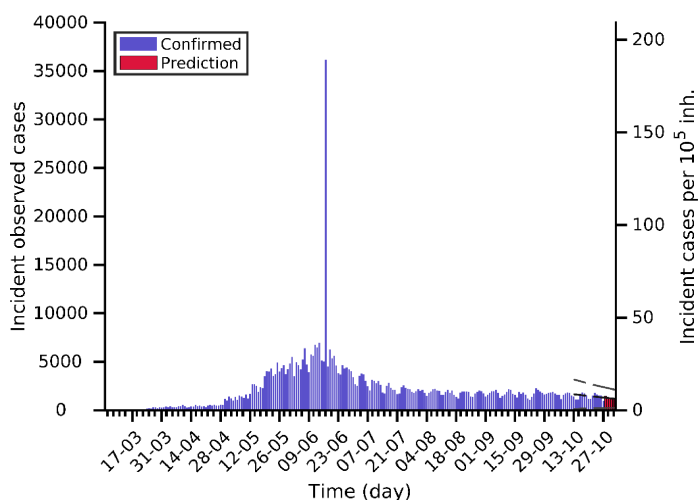


Predictions for next days

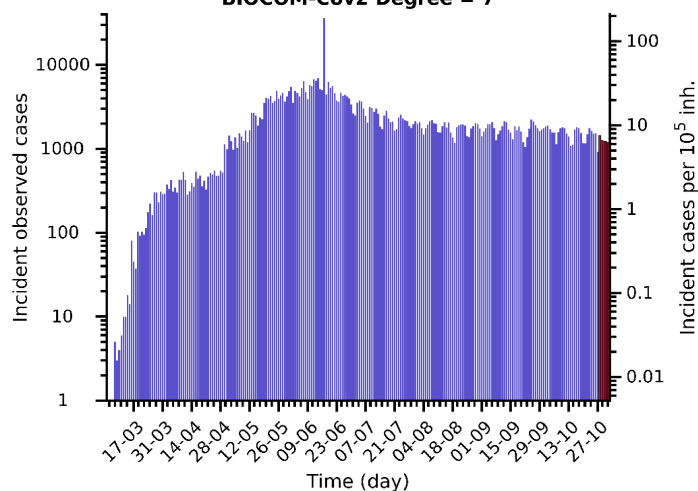
Day	Number of cases	95% Confidence Interval
28-10-2020	505971 (+1446)	[504525 - 508879]
30-10-2020	508465 (+1236)	[505458 - 511472]
01-11-2020	510874 (+1194)	[507667 - 514080]

Current indicators

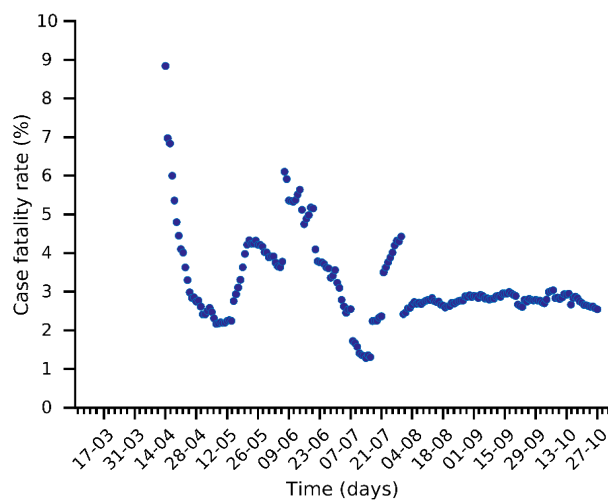
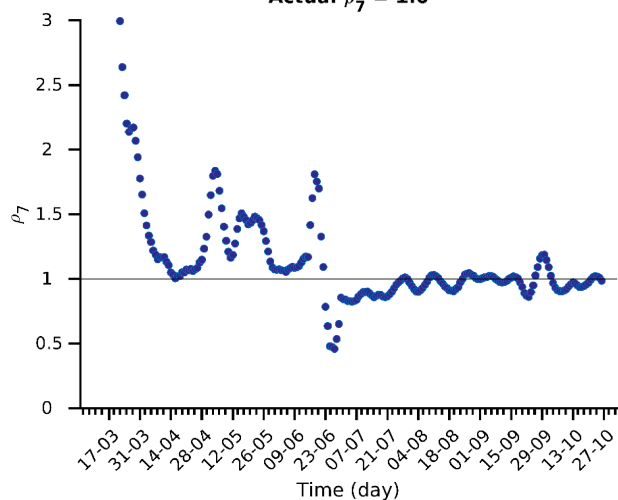
A ₁₄	EPG	CFR
106	104	2.54 %



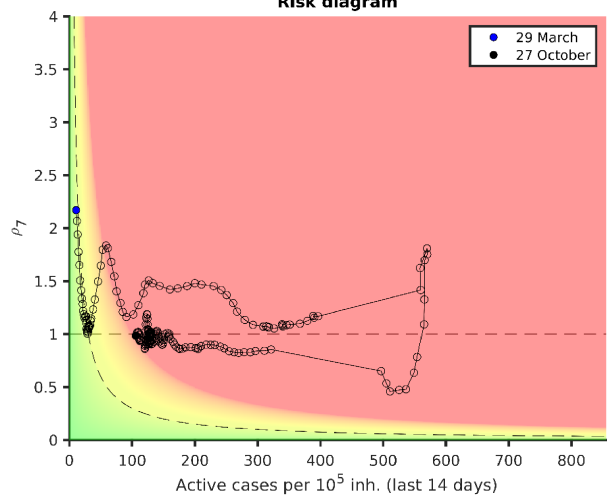
BIOCOM-Cov2 Degree = 7



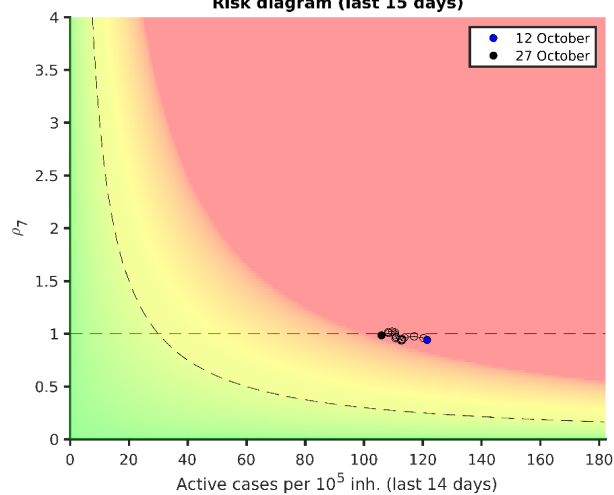
Actual $\rho_7 = 1.0$



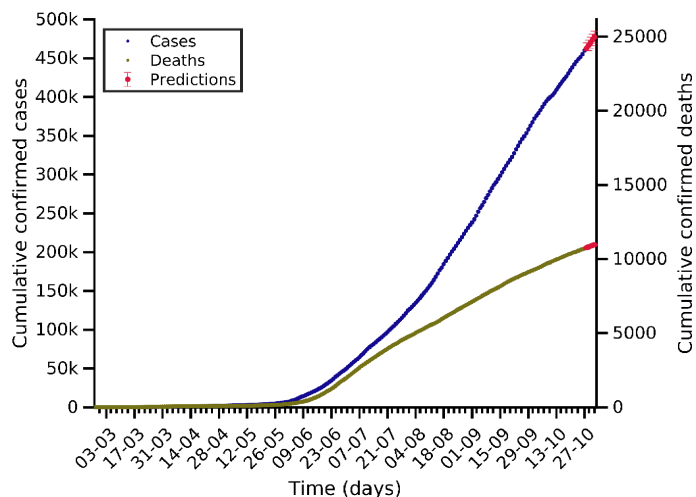
Risk diagram



Risk diagram (last 15 days)



Iraq 27-10-2020. Pop: 40.2M. Cumulative incidence: 1143/10⁵

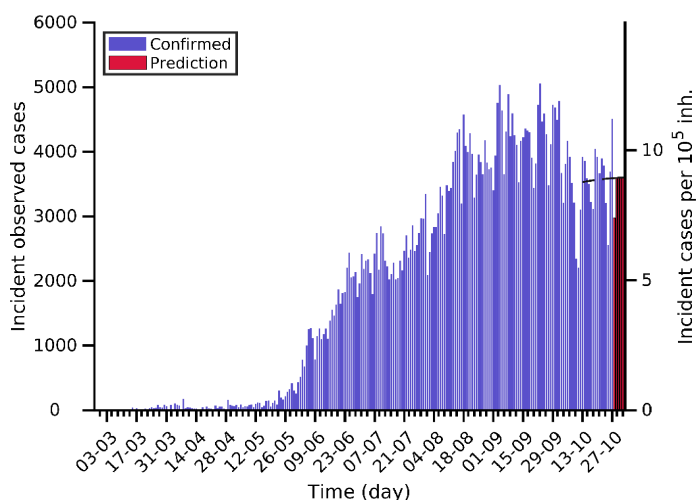


Predictions for next days

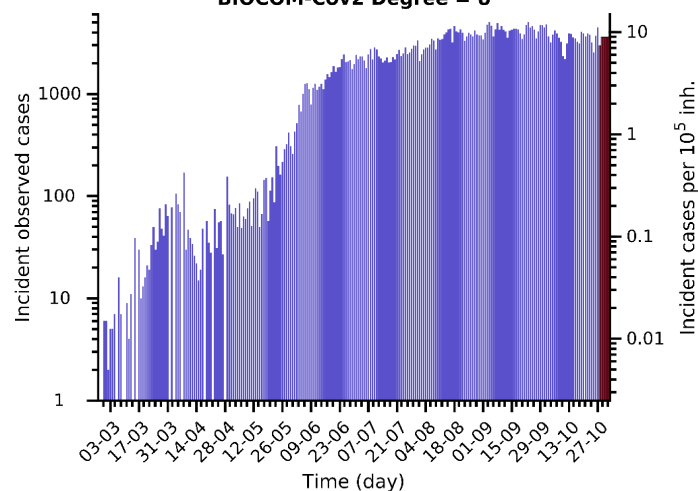
Day	Number of cases	95% Confidence Interval
28-10-2020	462883 (+2975)	[459908 - 469788]
30-10-2020	470075 (+3597)	[462895 - 477255]
01-11-2020	477275 (+3601)	[469502 - 485048]

Current indicators

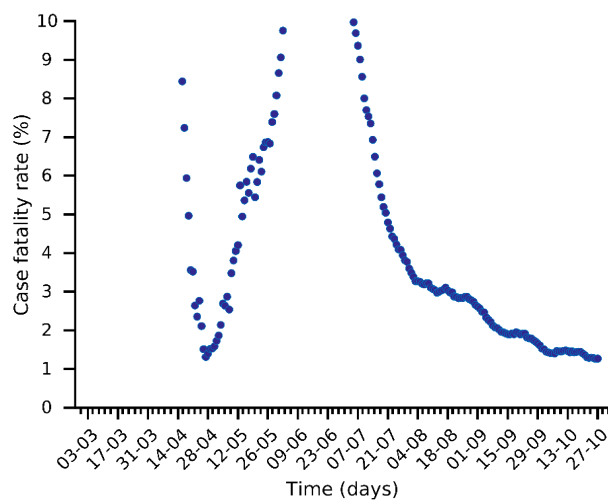
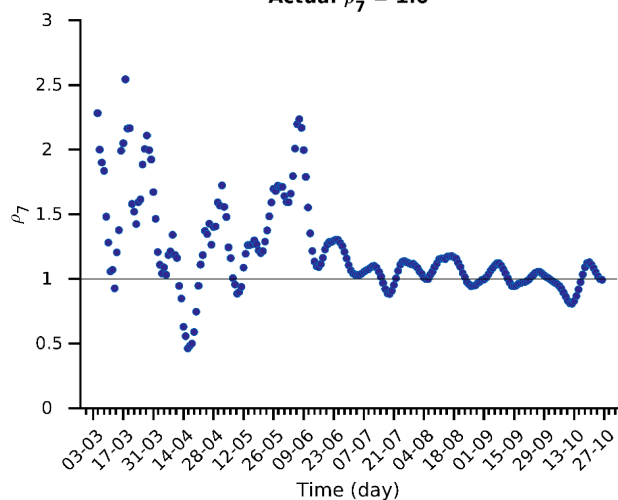
A ₁₄	EPG	CFR
126	125	1.27 %



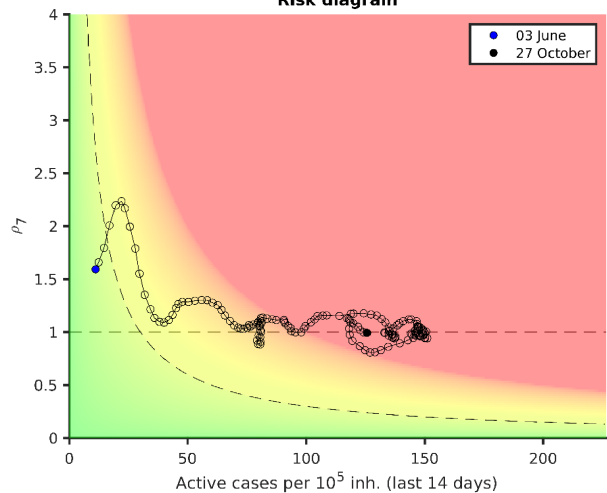
BIOCOM-Cov2 Degree = 8



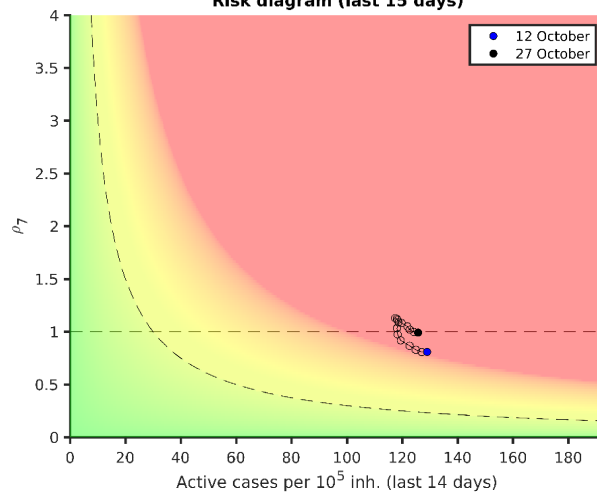
Actual $\rho_7 = 1.0$



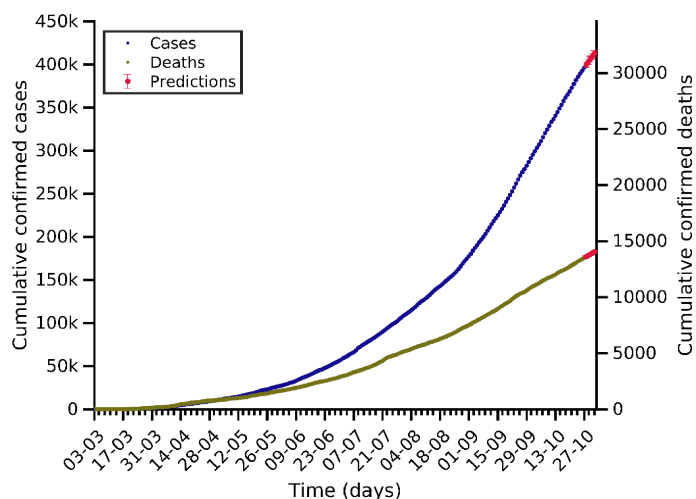
Risk diagram



Risk diagram (last 15 days)



Indonesia 27-10-2020. Pop: 273.5M. Cumulative incidence: 145/10⁵

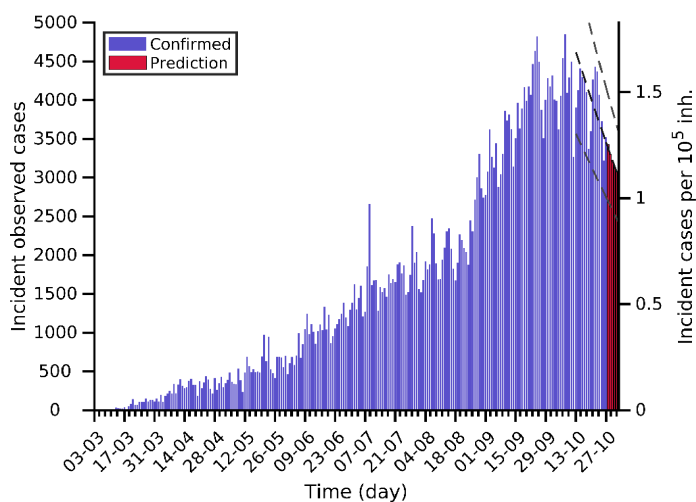


Predictions for next days

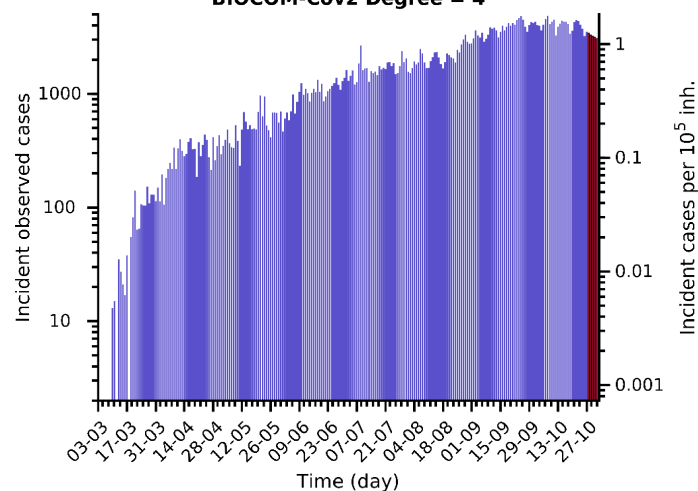
Day	Number of cases	95% Confidence Interval
28-10-2020	399879 (+3425)	[396651 - 403107]
30-10-2020	406405 (+3225)	[403069 - 409742]
01-11-2020	412629 (+3074)	[409077 - 416180]

Current indicators

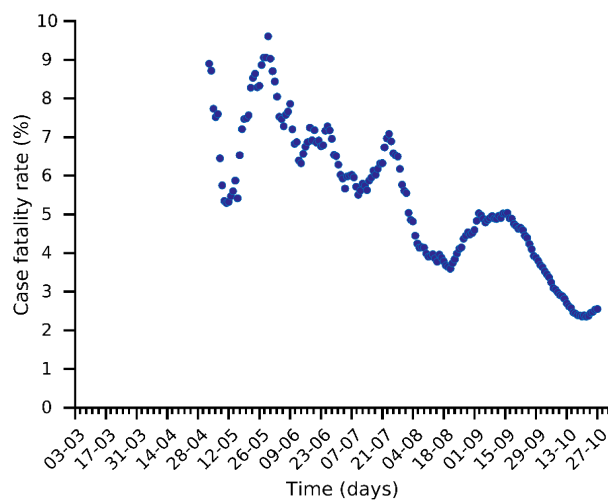
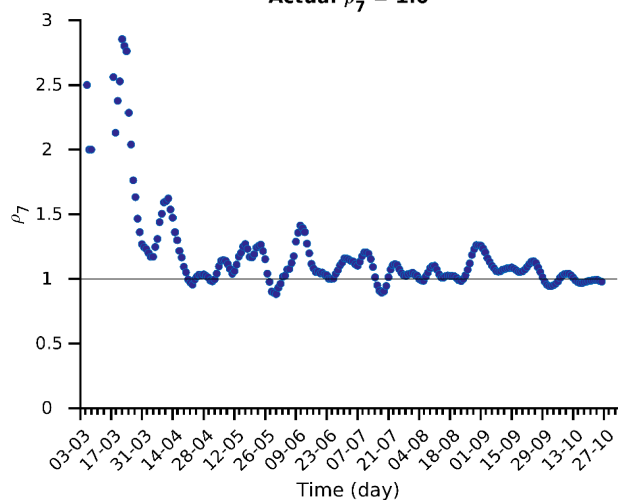
A ₁₄	EPG	CFR
20	20	2.55 %



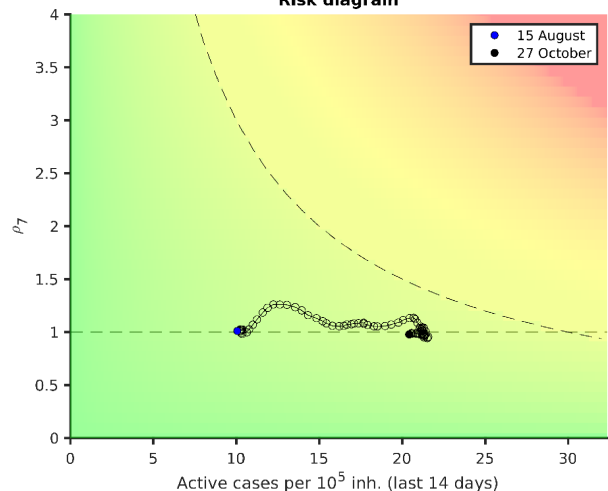
BIOCOM-Cov2 Degree = 4



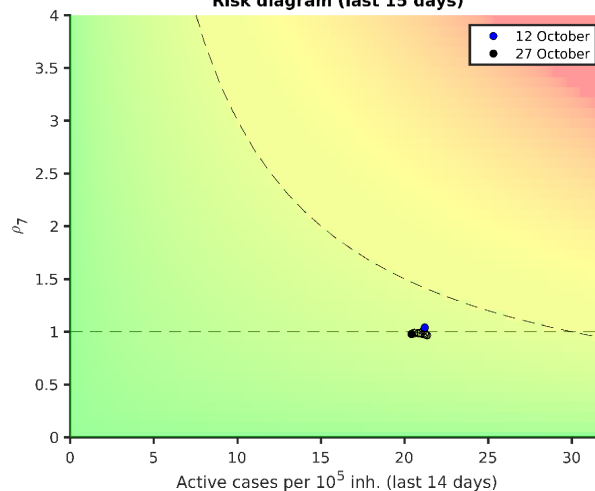
Actual $\rho_7 = 1.0$



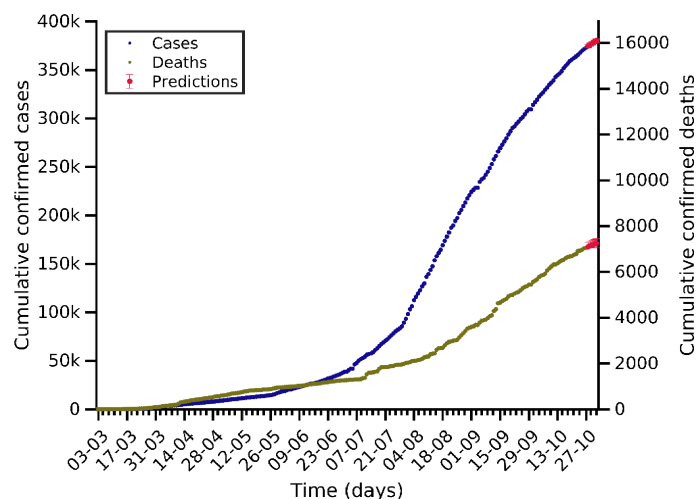
Risk diagram



Risk diagram (last 15 days)



Philippines 27-10-2020. Pop: 109.6M. Cumulative incidence: 341/10⁵

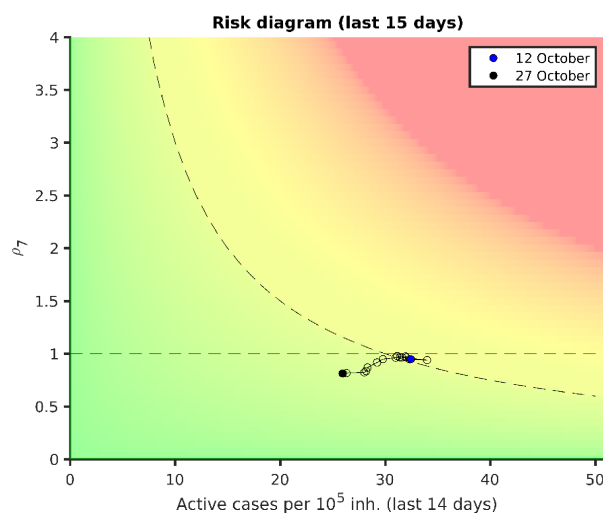
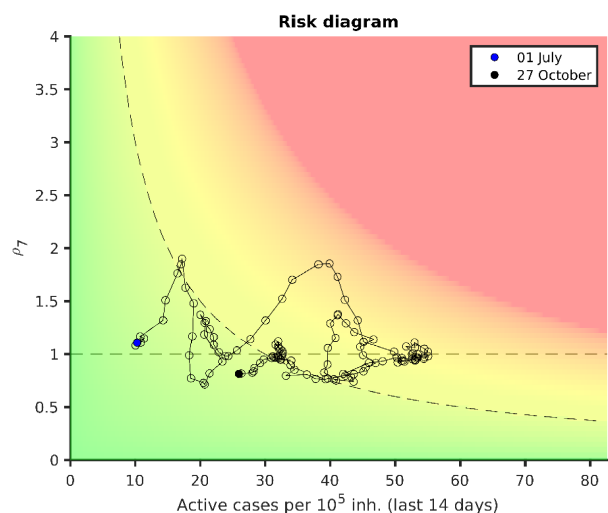
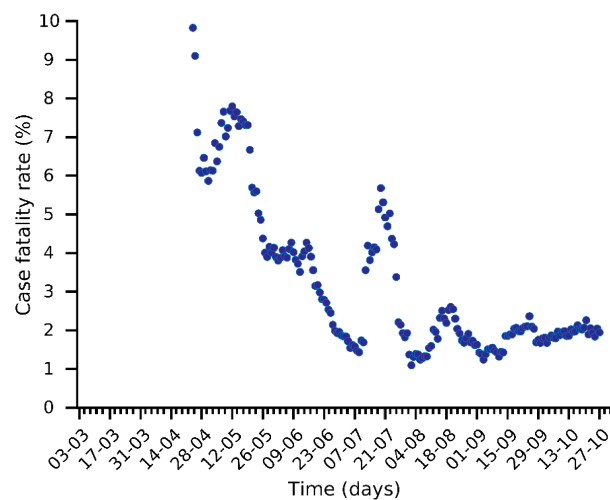
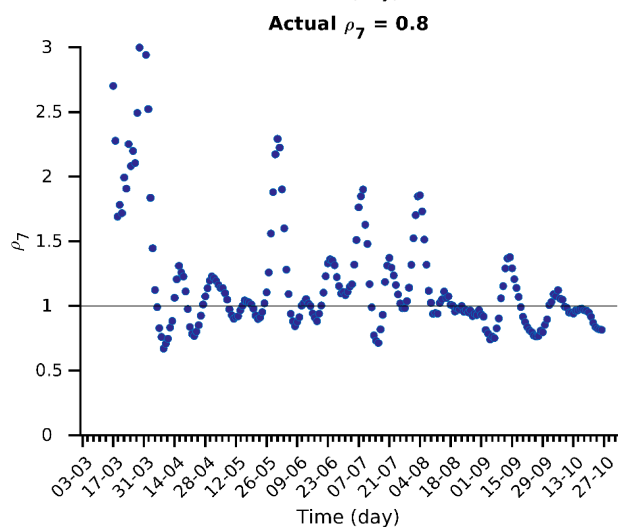
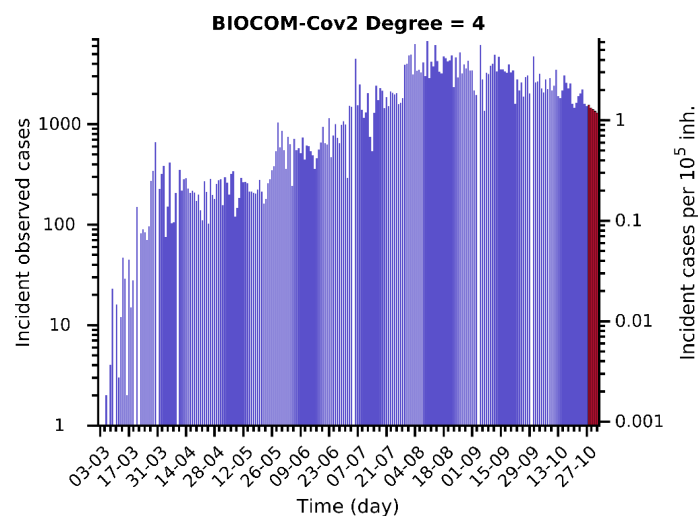
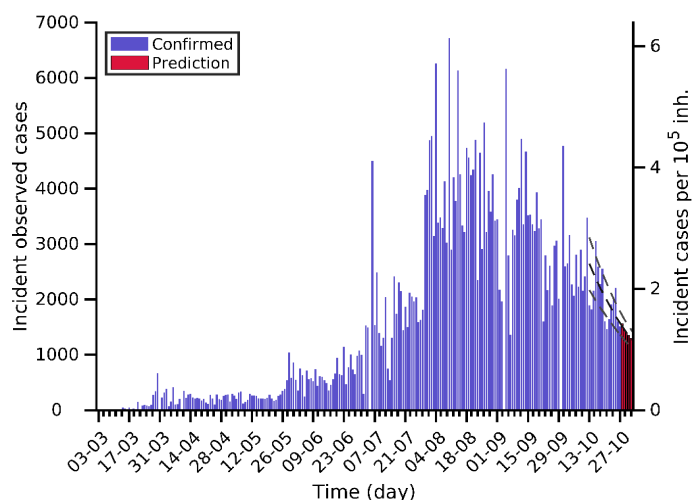


Predictions for next days

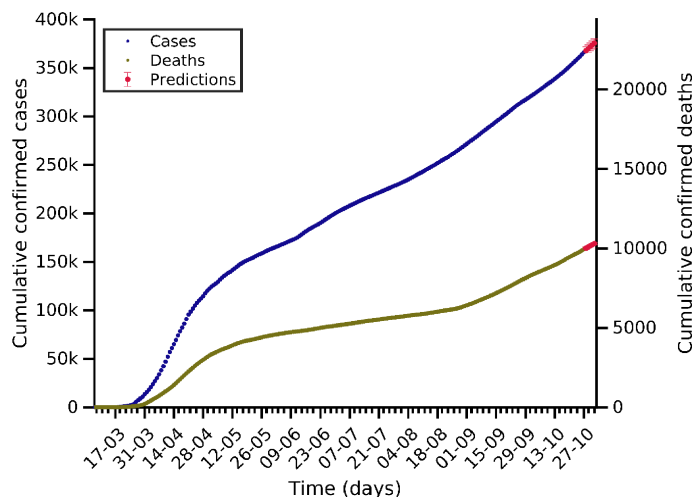
Day	Number of cases	95% Confidence Interval
28-10-2020	374703 (+1559)	[373144 - 376392]
30-10-2020	377562 (+1402)	[375824 - 379300]
01-11-2020	380206 (+1296)	[378375 - 382037]

Current indicators

A ₁₄	EPG	CFR
26	21	1.94 %



Turkey 27-10-2020. Pop: 84.3M. Cumulative incidence: 434/10⁵

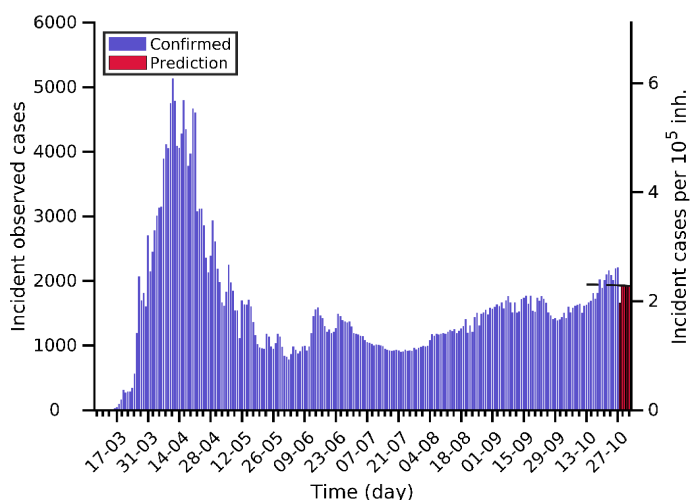


Predictions for next days

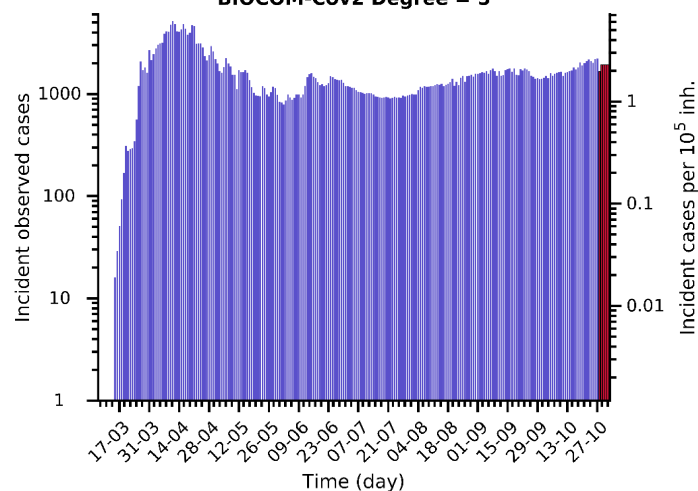
Day	Number of cases	95% Confidence Interval
28-10-2020	367865 (+1657)	[366208 - 371709]
30-10-2020	371722 (+1928)	[367727 - 375717]
01-11-2020	375573 (+1925)	[371257 - 379889]

Current indicators

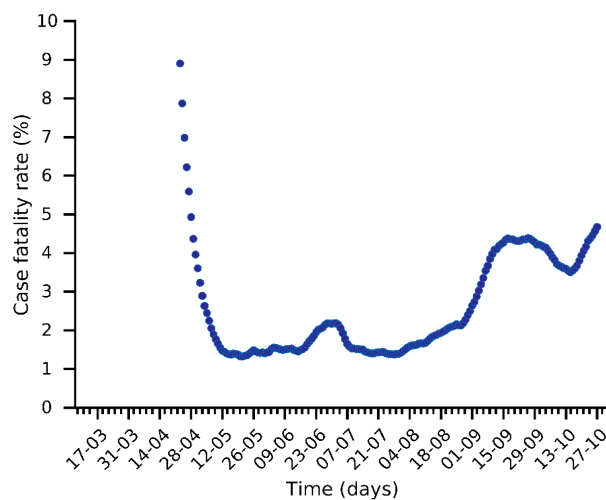
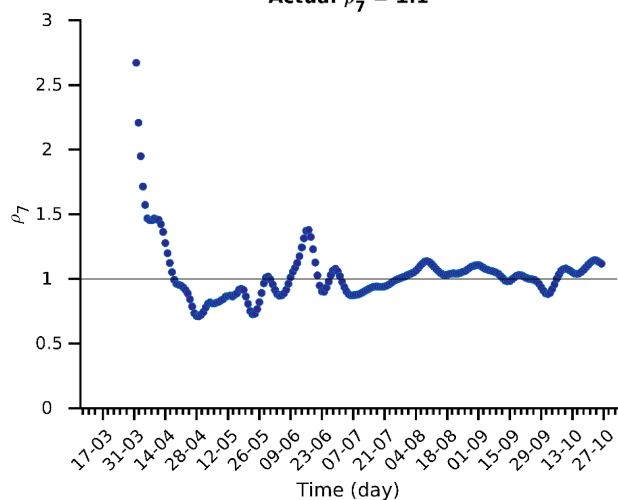
A ₁₄	EPG	CFR
33	36	4.67 %



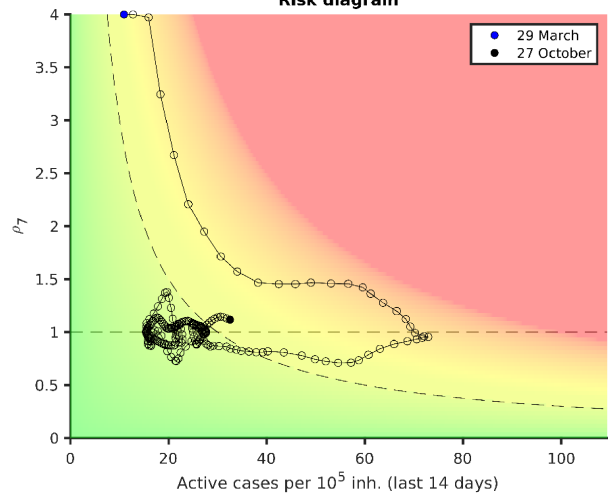
BIOCOM-Cov2 Degree = 5



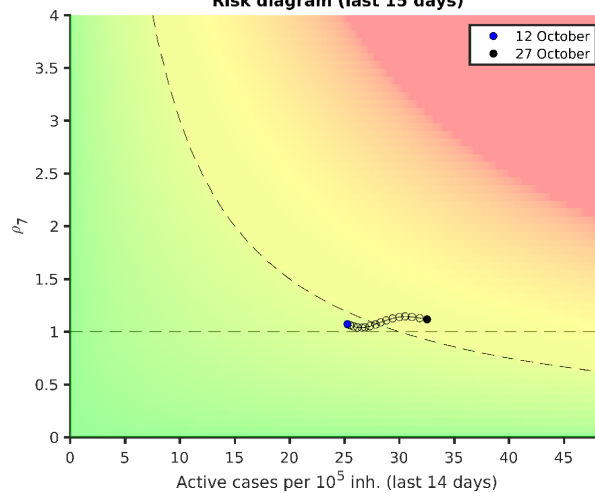
Actual $\rho_7 = 1.1$



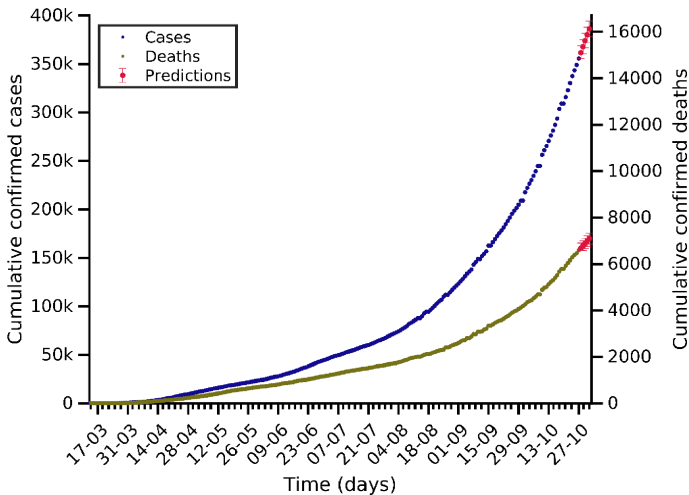
Risk diagram



Risk diagram (last 15 days)

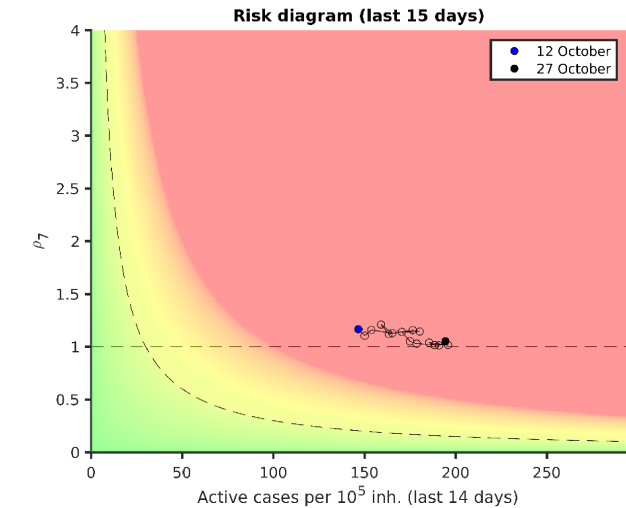
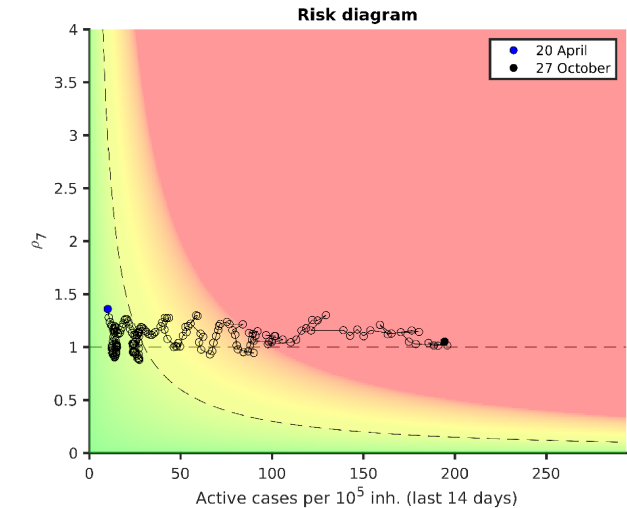
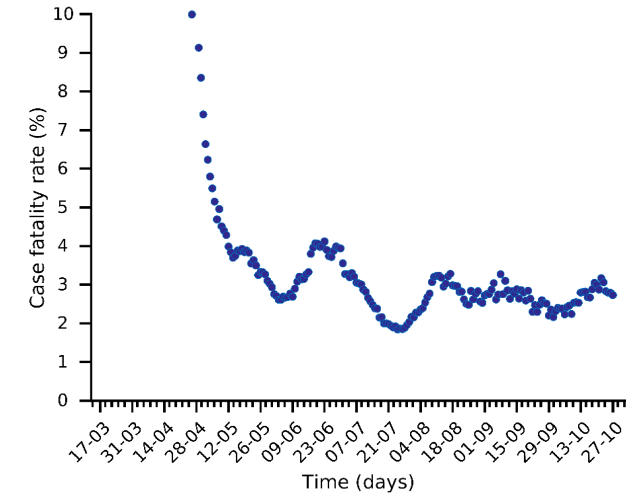
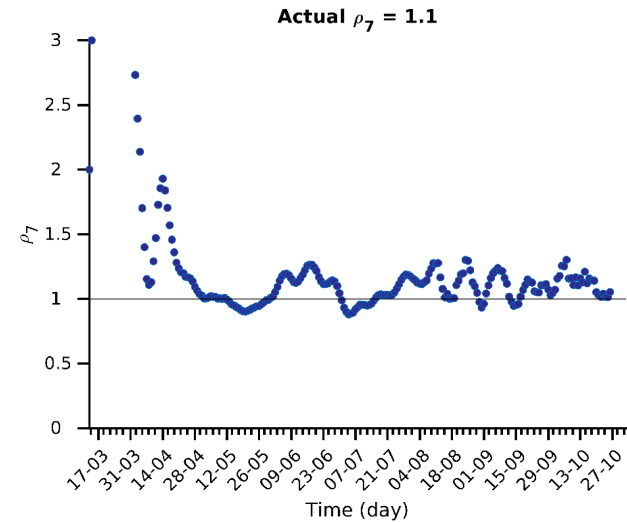
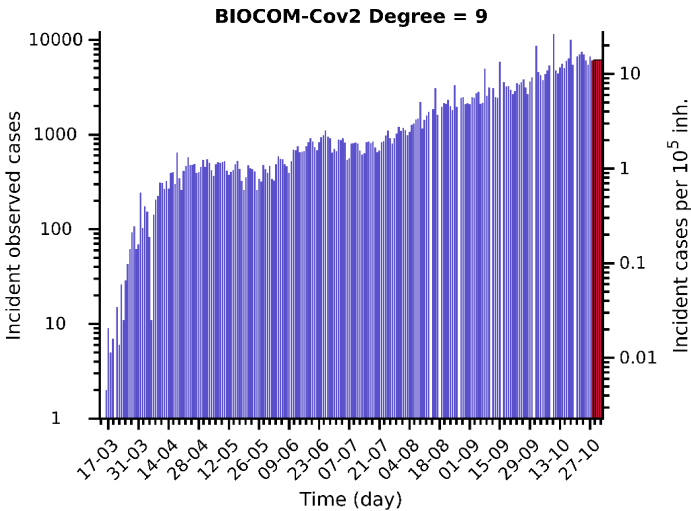
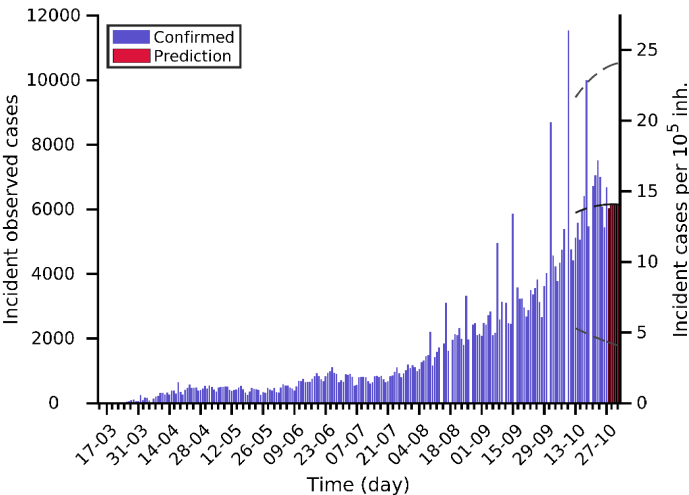


Ukraine 27-10-2020. Pop: 43.7M. Cumulative incidence: 813/10⁵

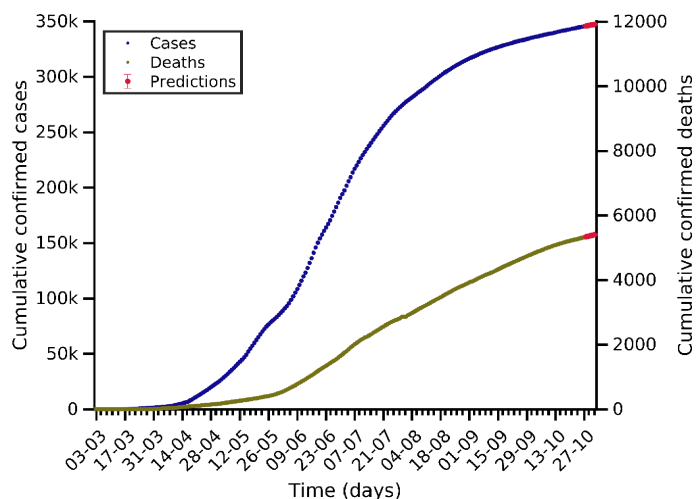


Predictions for next days		
Day	Number of cases	95% Confidence Interval
28-10-2020	361628 (+6027)	[355601 - 368804]
30-10-2020	373947 (+6160)	[366473 - 381421]
01-11-2020	386262 (+6157)	[378141 - 394383]

Current indicators		
A ₁₄	EPG	CFR
194	205	2.73 %



Saudi Arabia 27-10-2020. Pop: 34.8M. Cumulative incidence: 993/10⁵

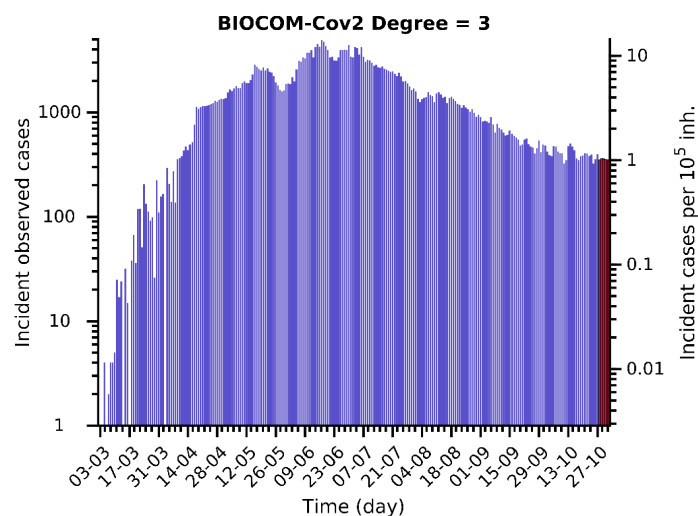
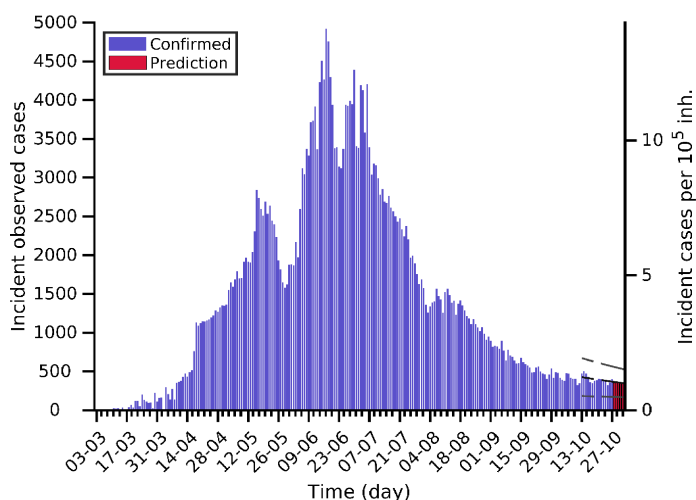


Predictions for next days

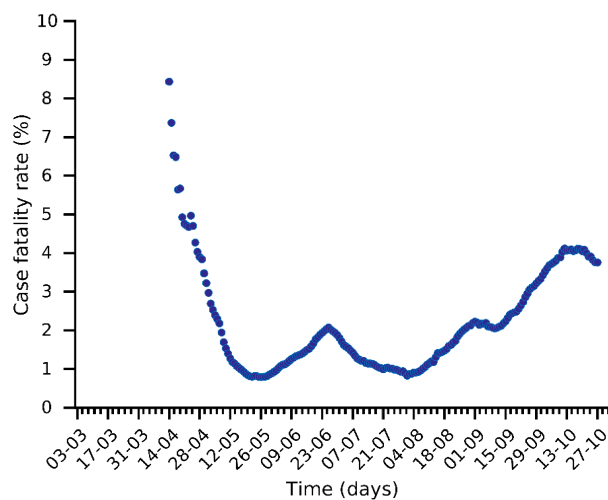
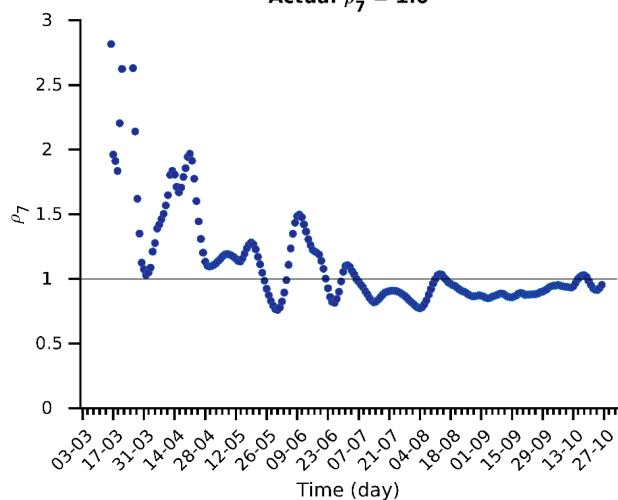
Day	Number of cases	95% Confidence Interval
28-10-2020	345981 (+350)	[345696 - 346266]
30-10-2020	346699 (+357)	[346404 - 346994]
01-11-2020	347401 (+349)	[347085 - 347717]

Current indicators

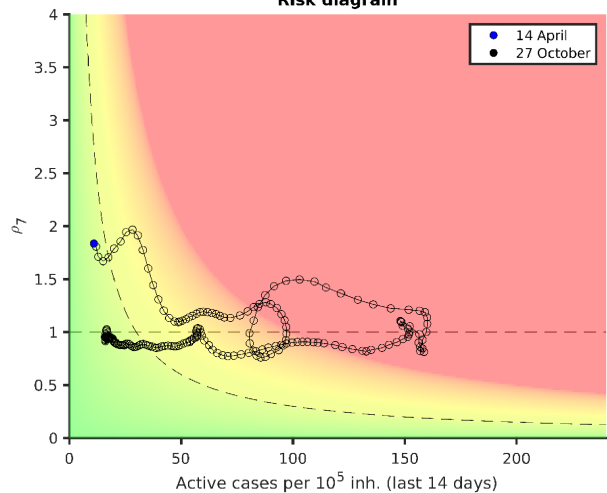
A ₁₄	EPG	CFR
16	15	3.75 %



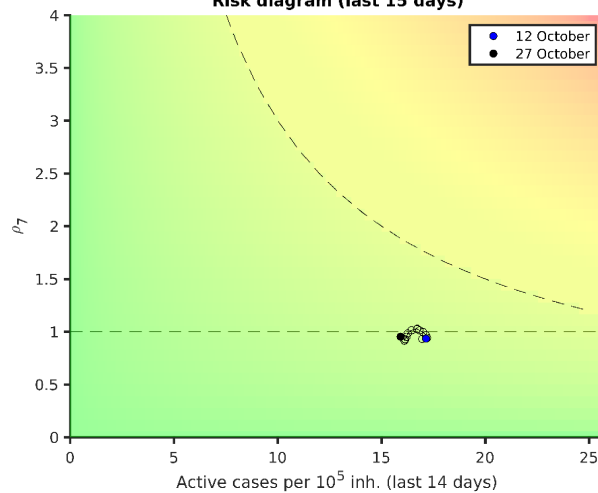
Actual $\rho_7 = 1.0$



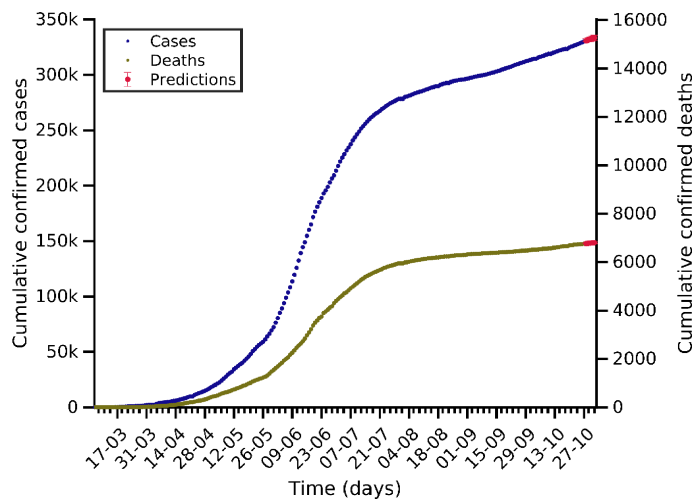
Risk diagram



Risk diagram (last 15 days)



Pakistan 27-10-2020. Pop: 220.9M. Cumulative incidence: 149/10⁵

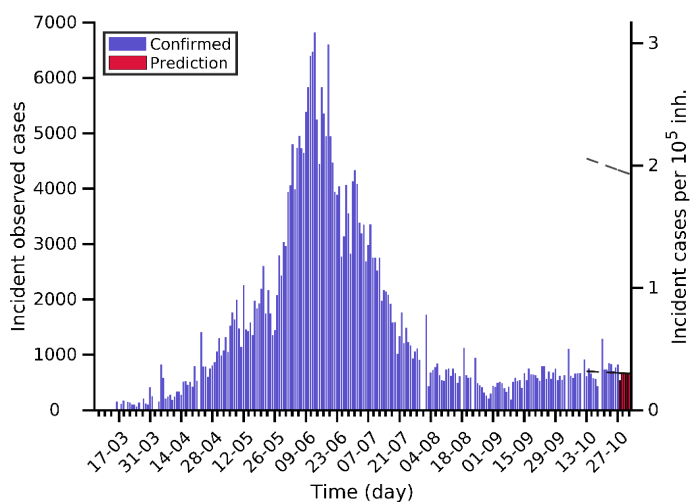


Predictions for next days

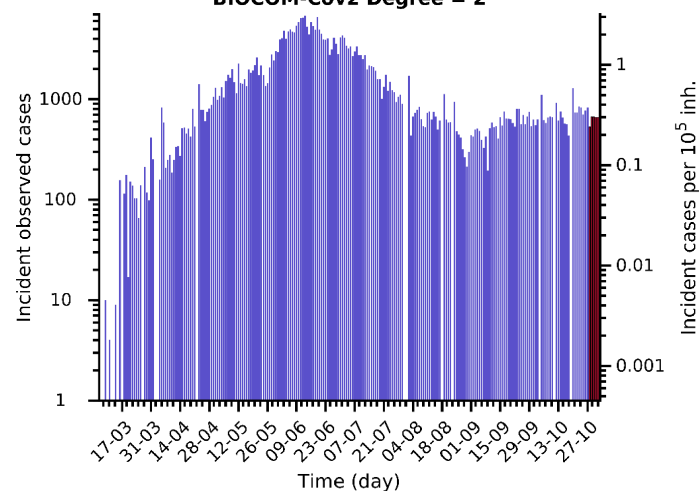
Day	Number of cases	95% Confidence Interval
28-10-2020	330731 (+531)	[330200 - 332761]
30-10-2020	332067 (+667)	[330200 - 334174]
01-11-2020	333394 (+663)	[331125 - 335664]

Current indicators

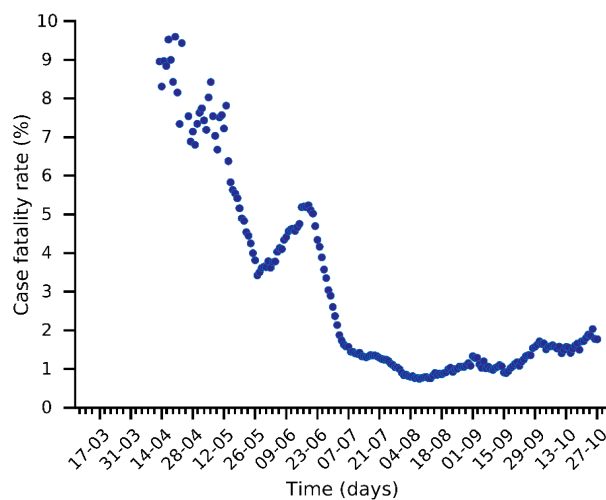
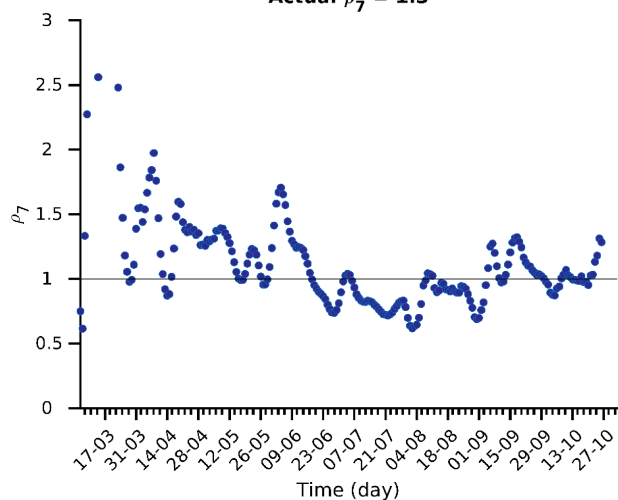
A ₁₄	EPG	CFR
4	6	1.77 %



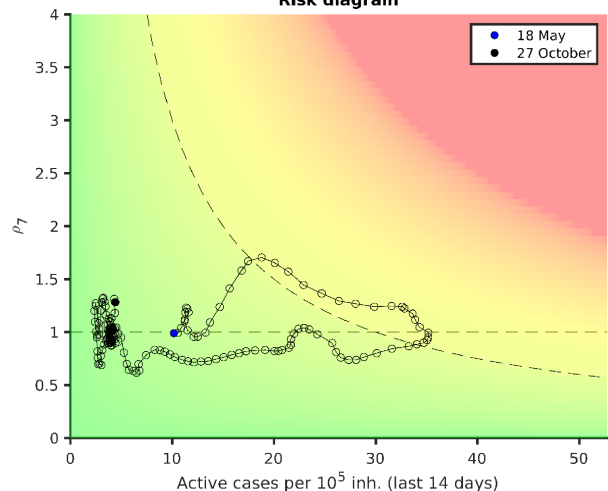
BIOCOM-Cov2 Degree = 2



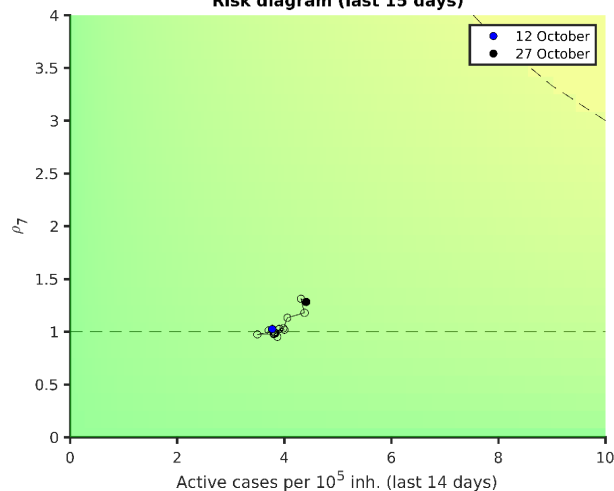
Actual $\rho_7 = 1.3$



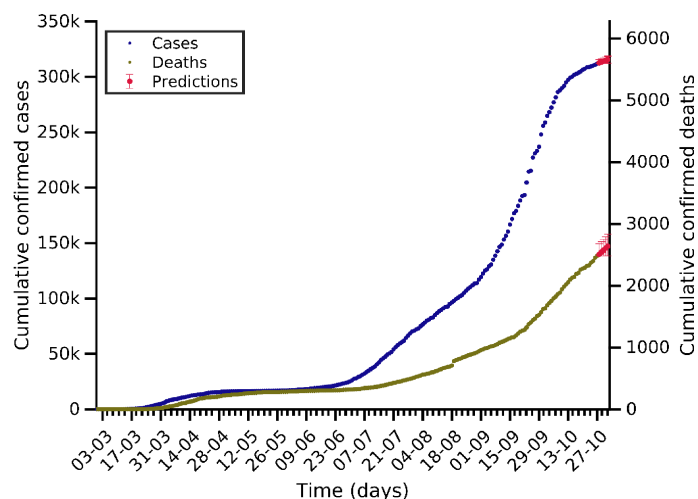
Risk diagram



Risk diagram (last 15 days)



Israel 27-10-2020. Pop: 8.7M. Cumulative incidence: 3605/10⁵

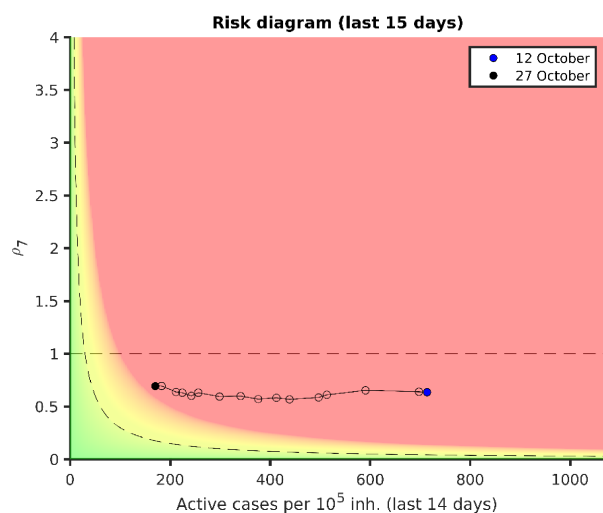
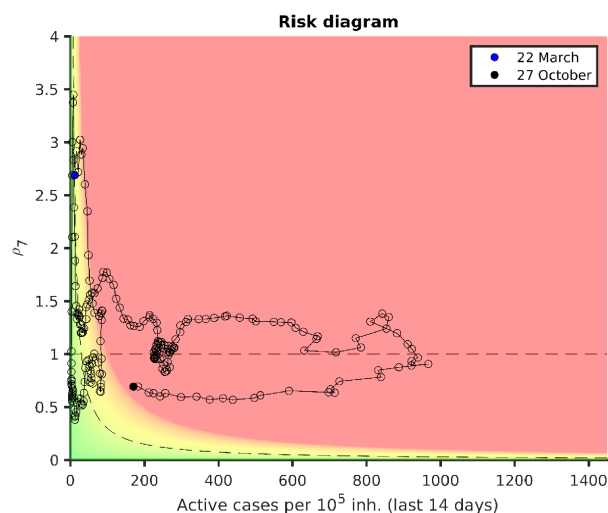
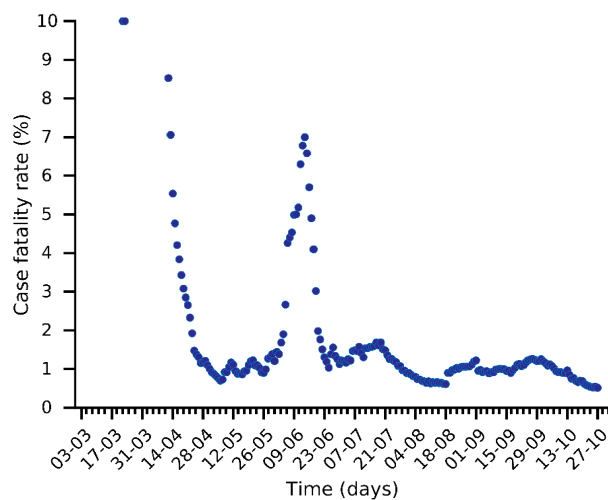
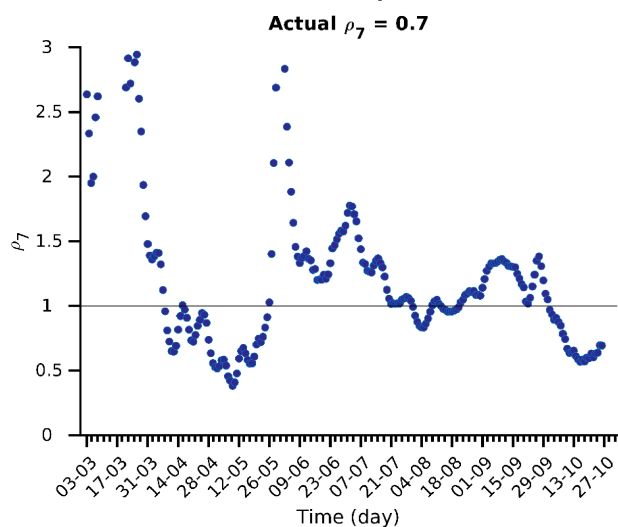
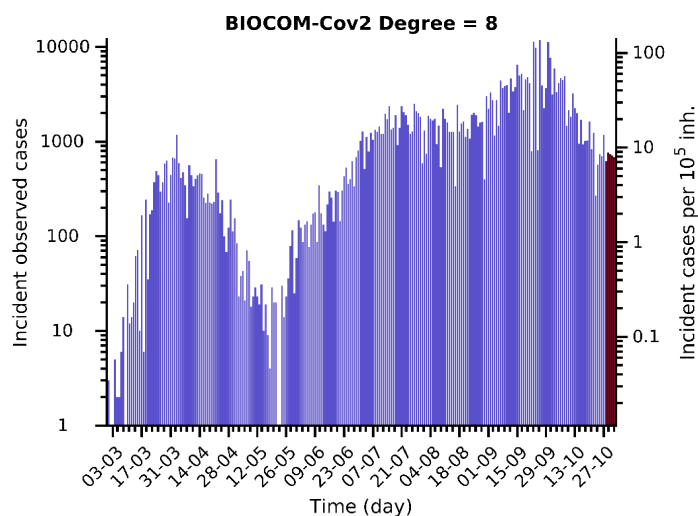
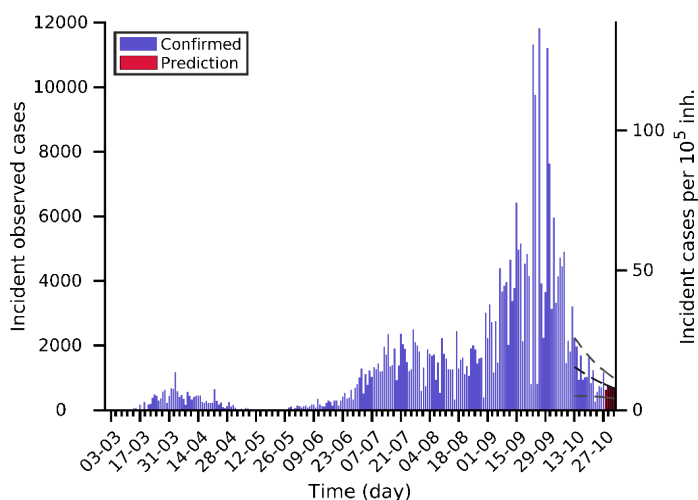


Predictions for next days

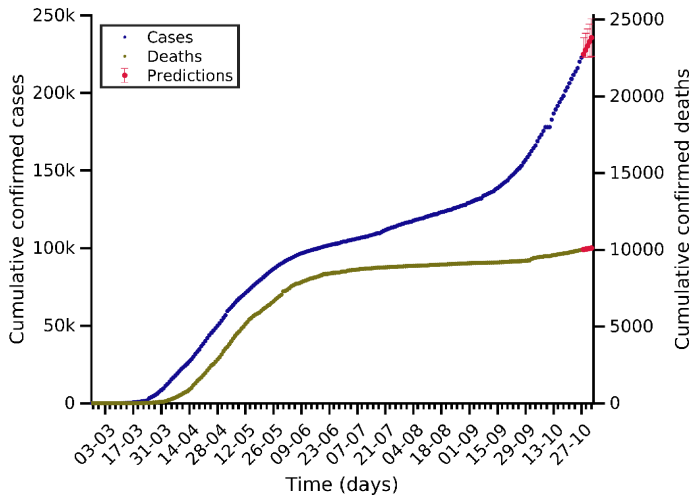
Day	Number of cases	95% Confidence Interval
28-10-2020	312642 (+618)	[312024 - 315567]
30-10-2020	314138 (+734)	[312024 - 317149]
01-11-2020	315529 (+683)	[312355 - 318704]

Current indicators

A ₁₄	EPG	CFR
170	118	0.51 %

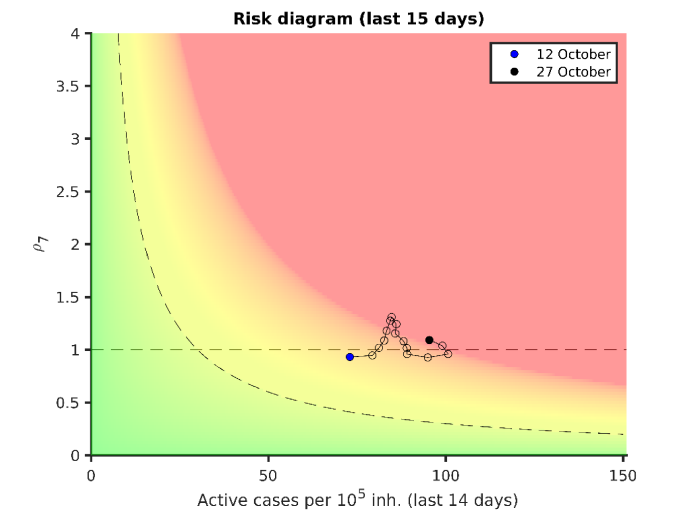
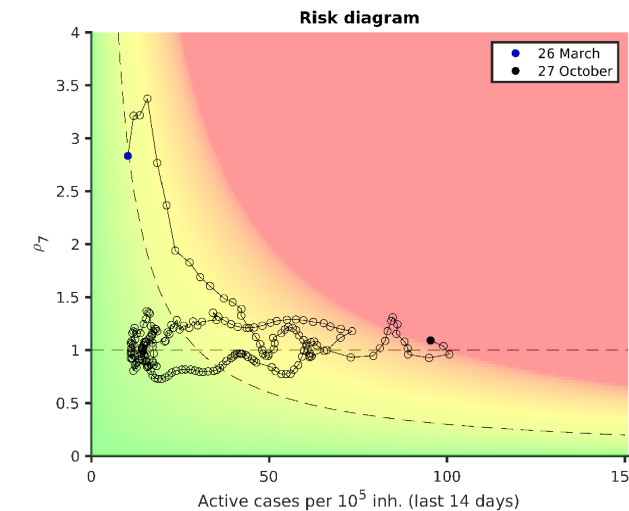
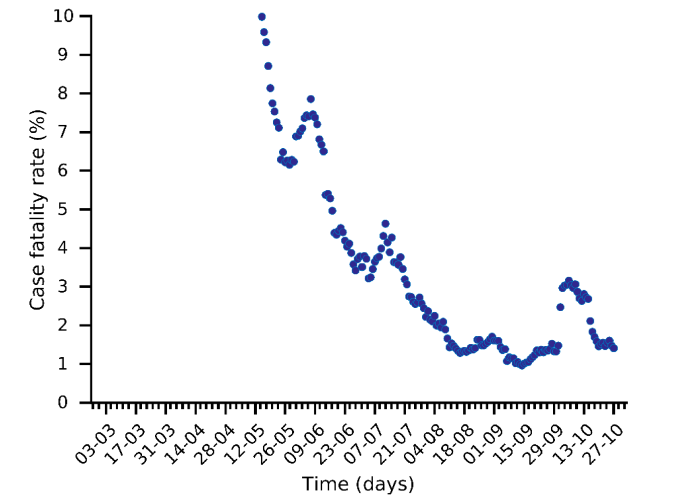
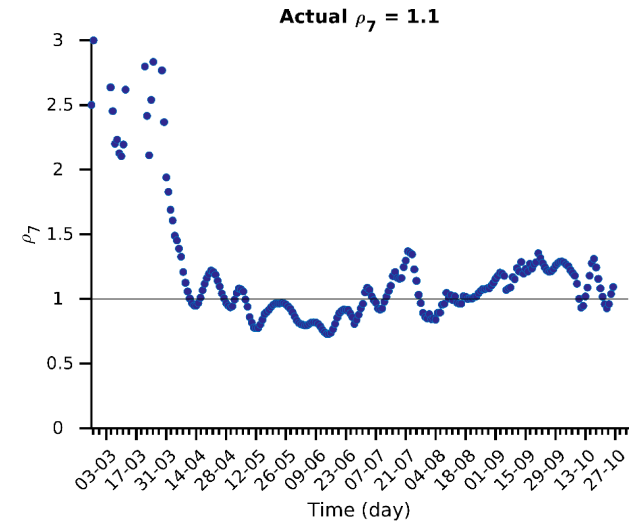
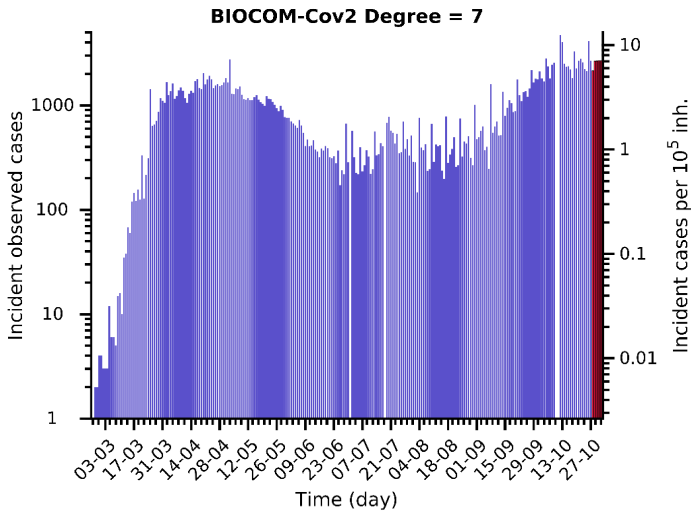
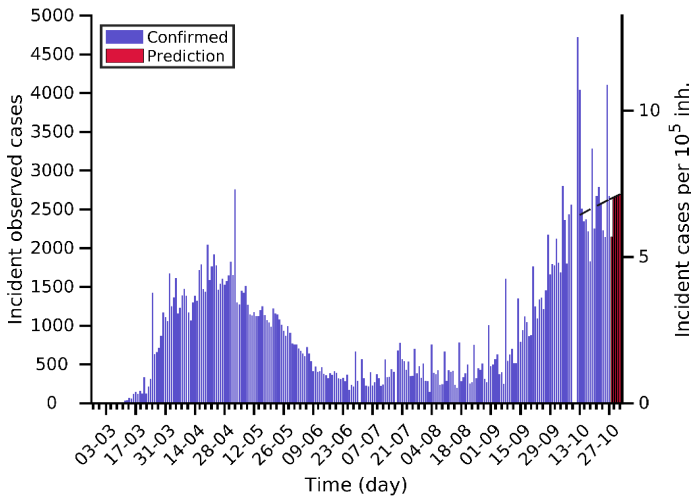


Canada 27-10-2020. Pop: 37.7M. Cumulative incidence: 591/10⁵

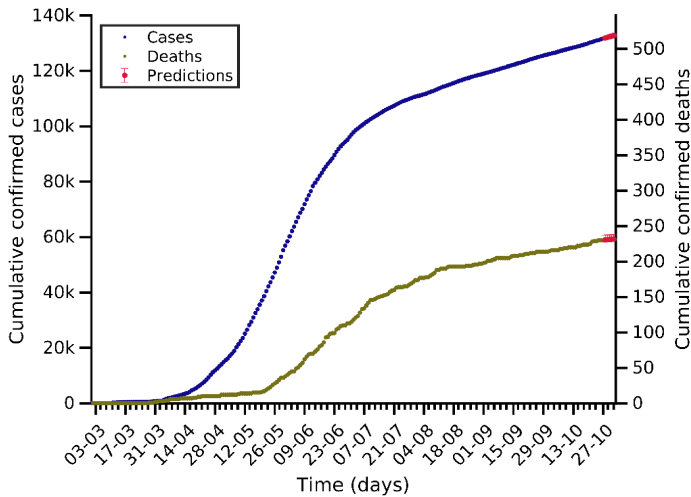


Predictions for next days		
Day	Number of cases	95% Confidence Interval
28-10-2020	225033 (+2146)	[222887 - 235610]
30-10-2020	230355 (+2668)	[222887 - 241375]
01-11-2020	235729 (+2693)	[223738 - 247720]

Current indicators		
A ₁₄	EPG	CFR
95	104	1.41 %

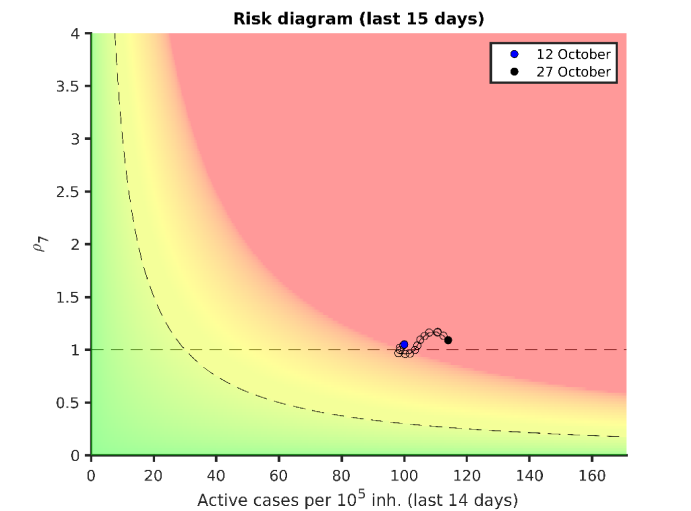
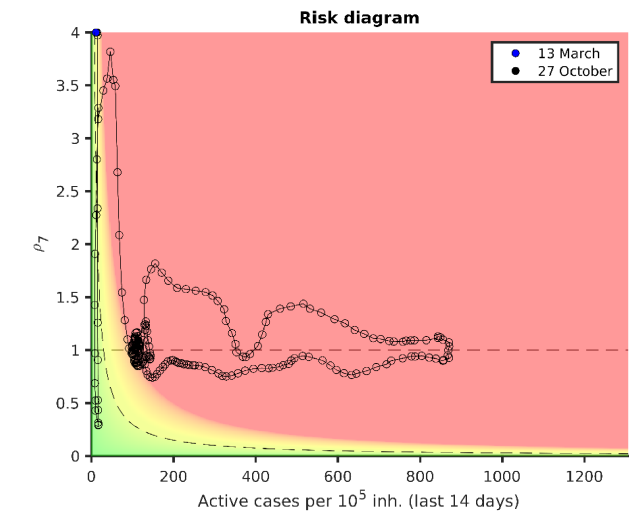
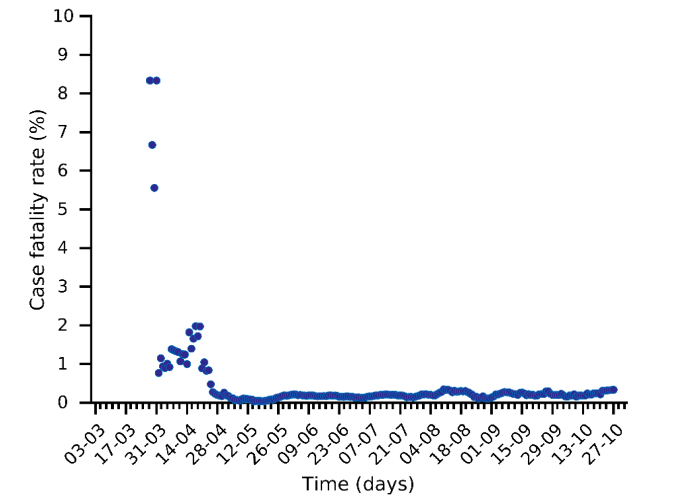
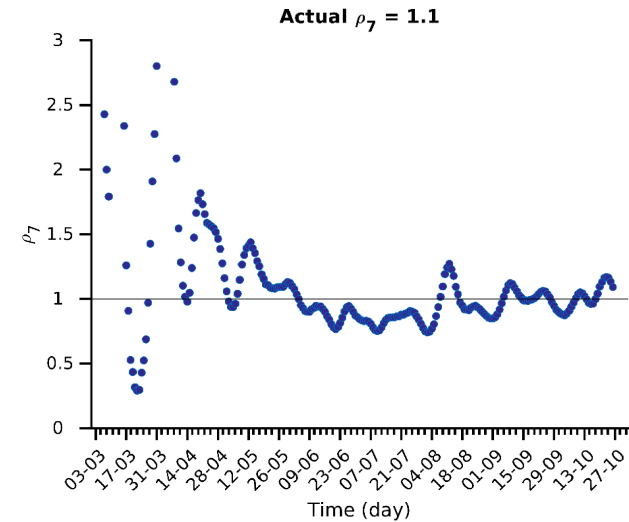
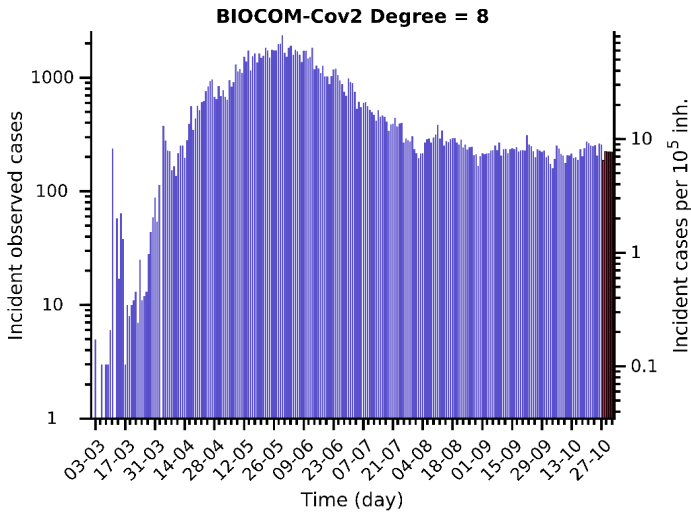
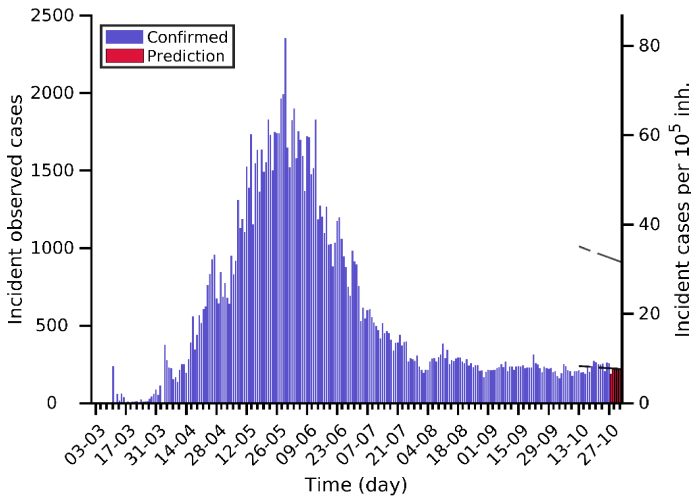


Qatar 27-10-2020. Pop: 2.9M. Cumulative incidence: 4571/10⁵

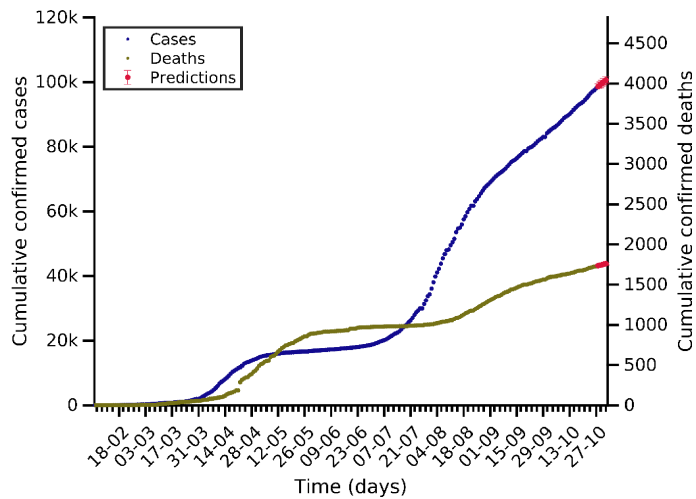


Predictions for next days		
Day	Number of cases	95% Confidence Interval
28-10-2020	131876 (+187)	[131689 - 132367]
30-10-2020	132323 (+223)	[131814 - 132832]
01-11-2020	132765 (+221)	[132217 - 133312]

Current indicators		
A ₁₄	EPG	CFR
114	124	0.33 %



Japan 27-10-2020. Pop: 126.5M. Cumulative incidence: 78/10⁵

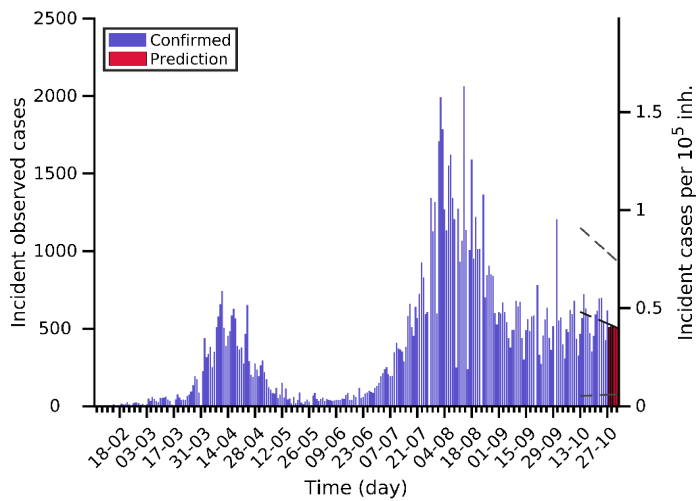


Predictions for next days

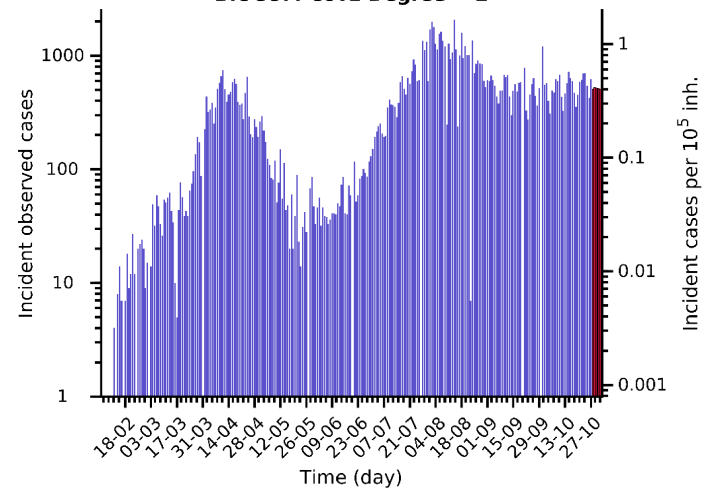
Day	Number of cases	95% Confidence Interval
28-10-2020	98623 (+507)	[98116 - 99487]
30-10-2020	99664 (+517)	[98768 - 100559]
01-11-2020	100683 (+507)	[99722 - 101644]

Current indicators

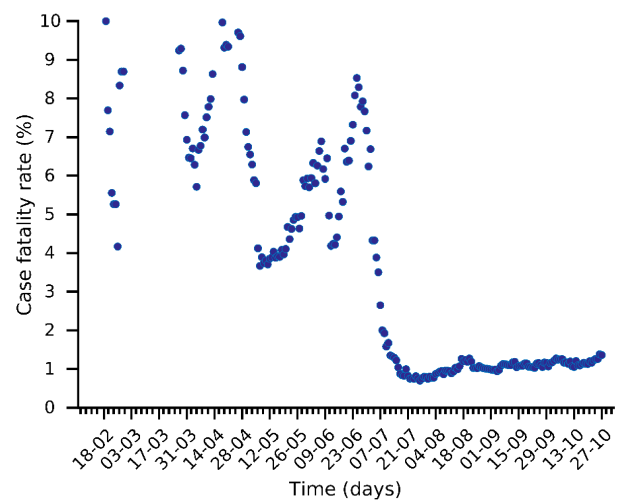
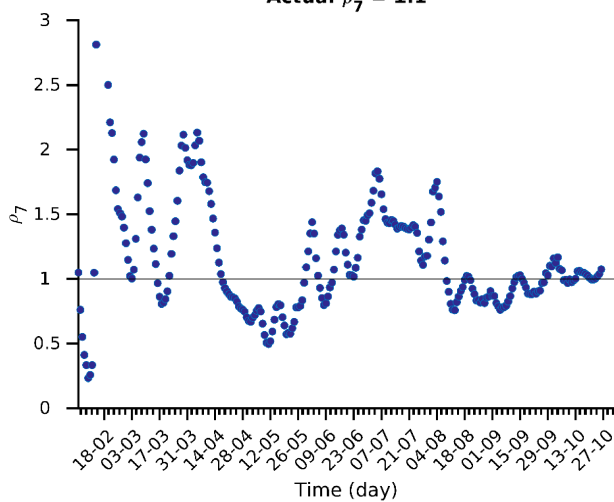
A ₁₄	EPG	CFR
6	7	1.36 %



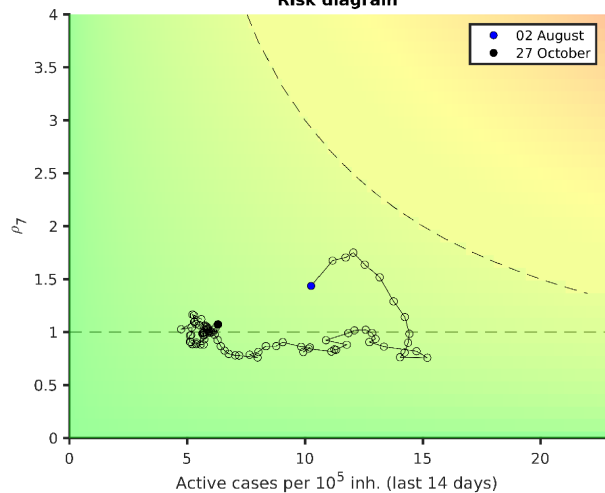
BIOCOM-Cov2 Degree = 2



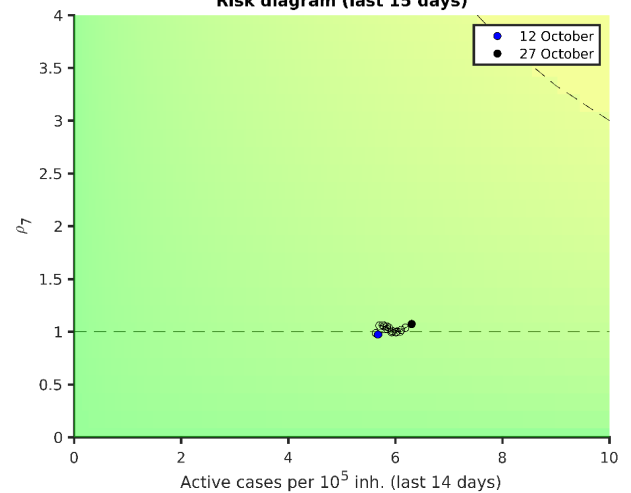
Actual $\rho_7 = 1.1$



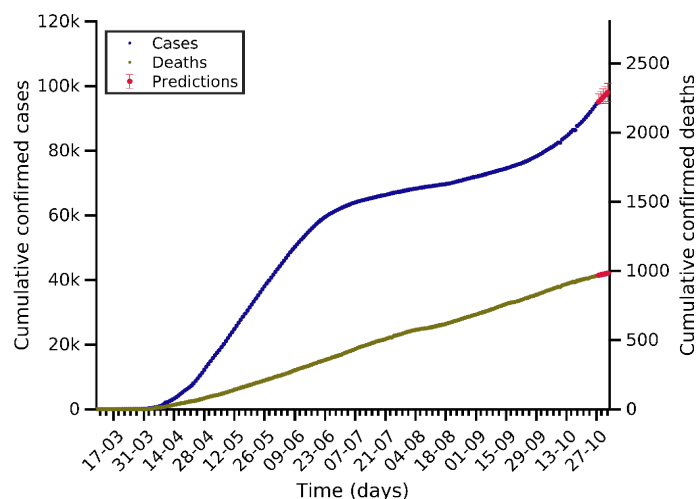
Risk diagram



Risk diagram (last 15 days)



Belarus 27-10-2020. Pop: 9.4M. Cumulative incidence: 1001/10⁵

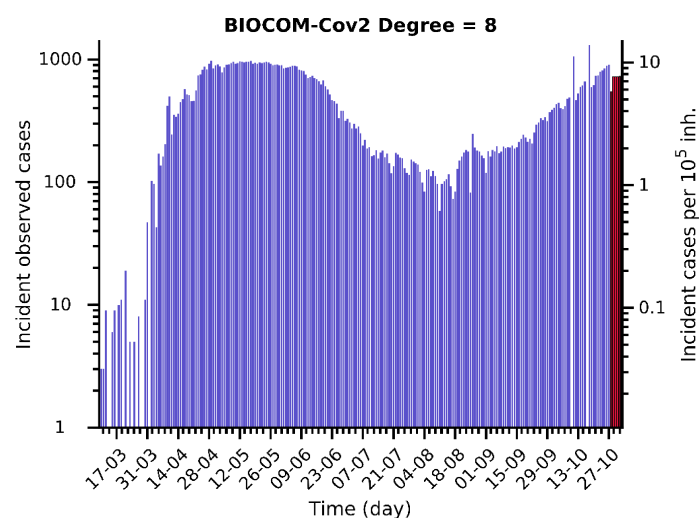
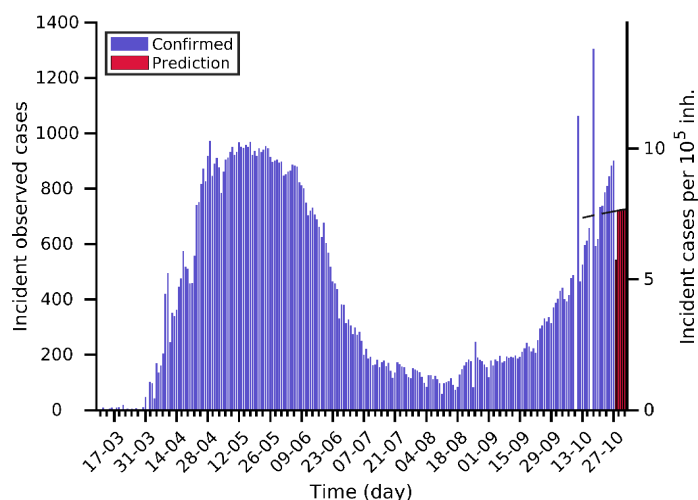


Predictions for next days

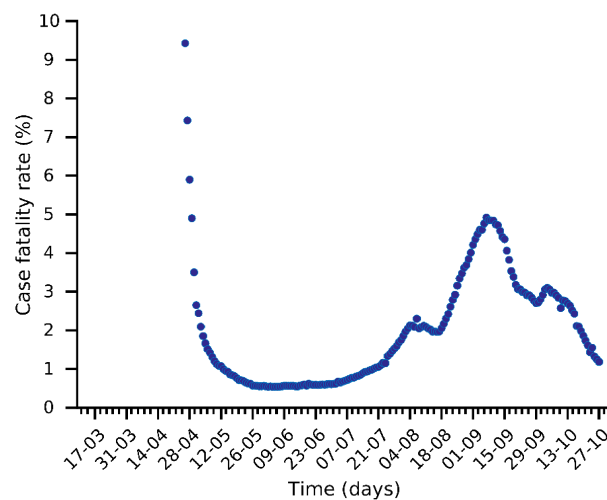
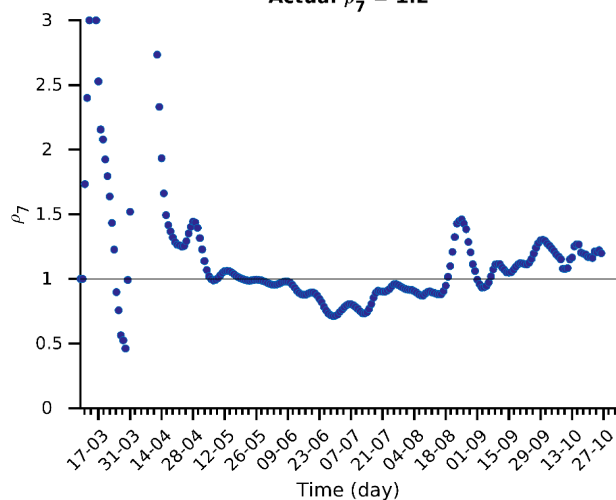
Day	Number of cases	95% Confidence Interval
28-10-2020	95152 (+543)	[94609 - 97608]
30-10-2020	96596 (+722)	[94609 - 99151]
01-11-2020	98045 (+725)	[95276 - 100814]

Current indicators

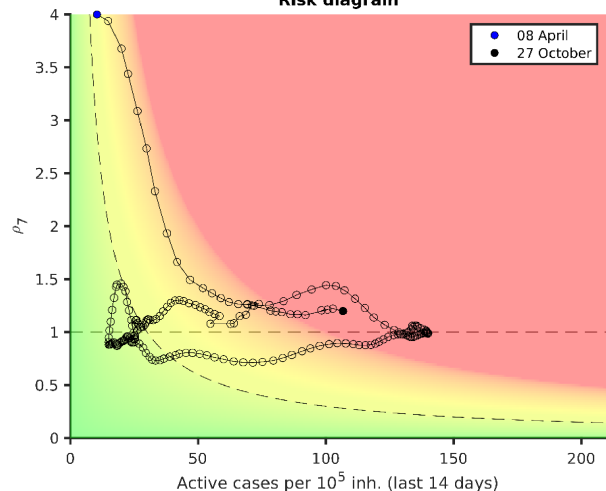
A ₁₄	EPG	CFR
107	128	1.18 %



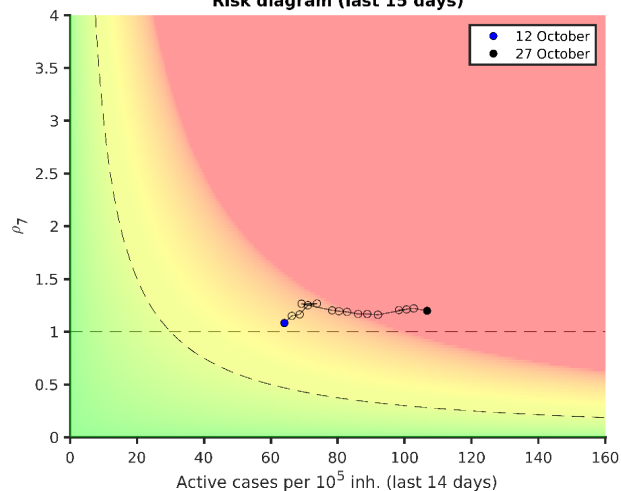
Actual $\rho_7 = 1.2$



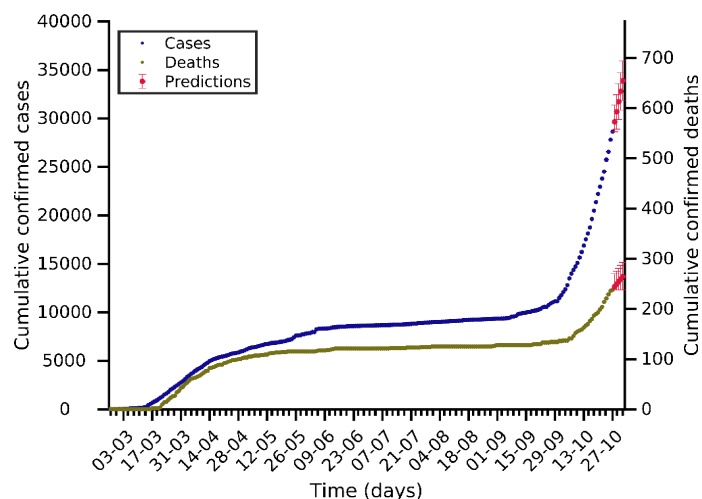
Risk diagram



Risk diagram (last 15 days)



Malaysia 27-10-2020. Pop: 32.4M. Cumulative incidence: 88/10⁵

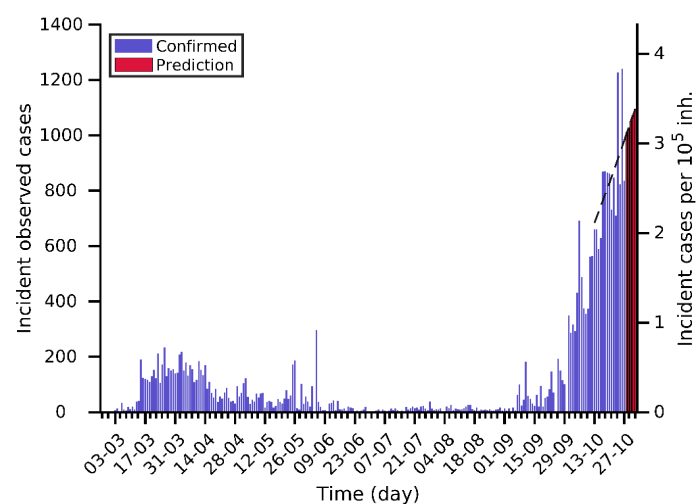


Predictions for next days

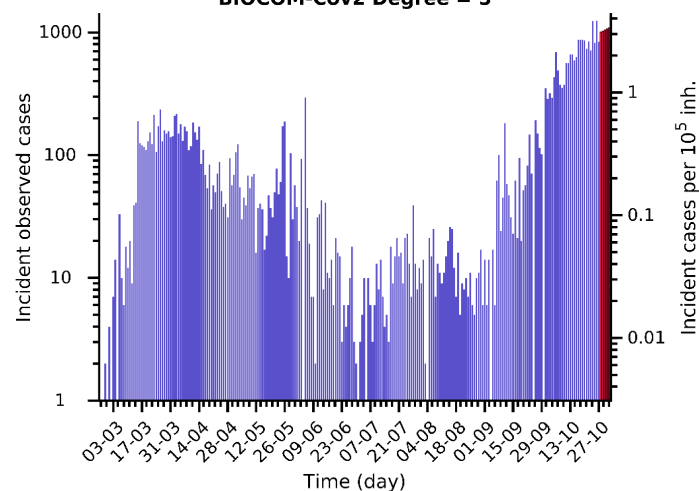
Day	Number of cases	95% Confidence Interval
28-10-2020	29650 (+1010)	[28640 - 31397]
30-10-2020	31726 (+1049)	[29888 - 33563]
01-11-2020	33891 (+1094)	[31840 - 35943]

Current indicators

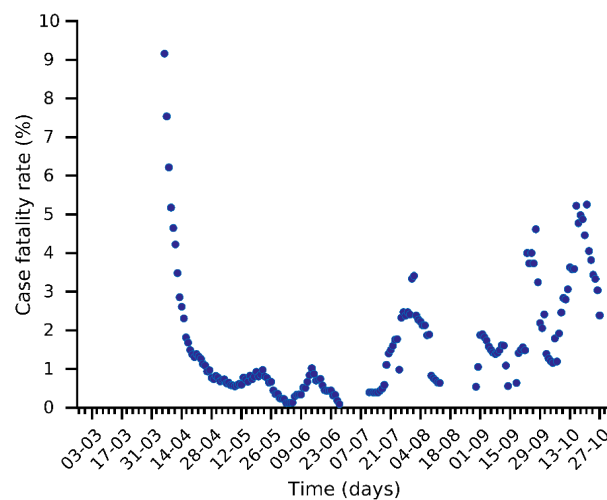
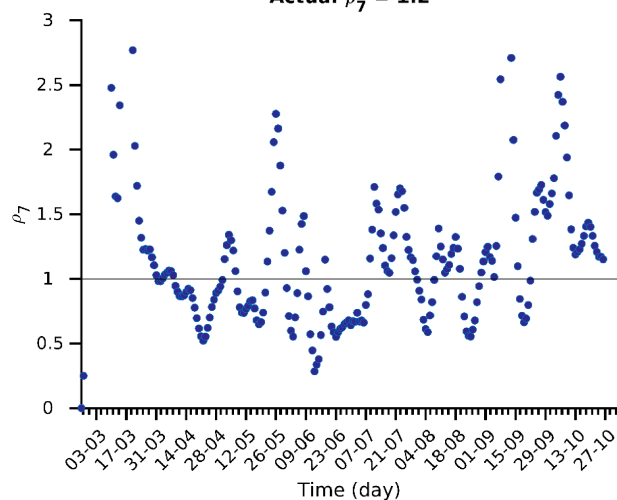
A ₁₄	EPG	CFR
36	42	2.38 %



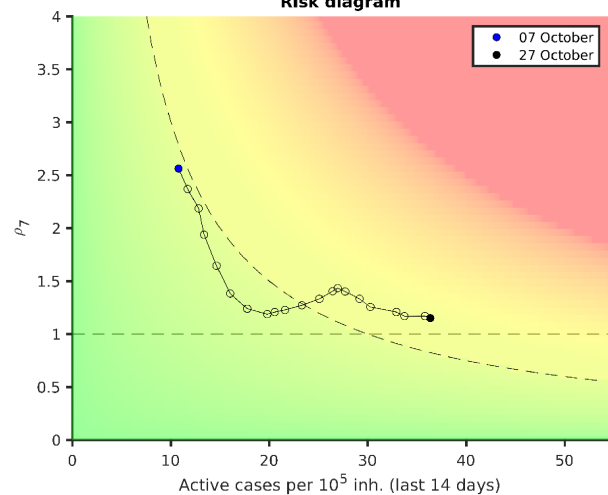
BIOCOM-Cov2 Degree = 5



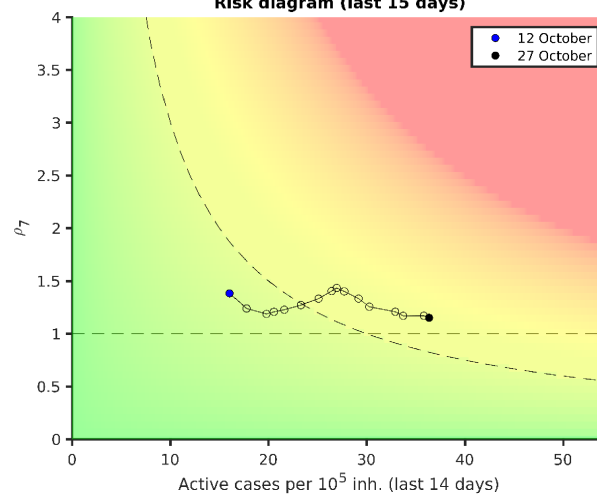
Actual $\rho_7 = 1.2$



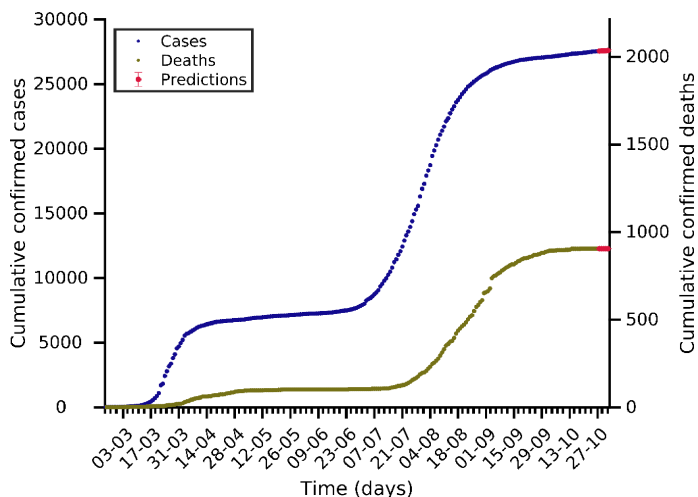
Risk diagram



Risk diagram (last 15 days)



Australia 27-10-2020. Pop: 25.5M. Cumulative incidence: 108/10⁵

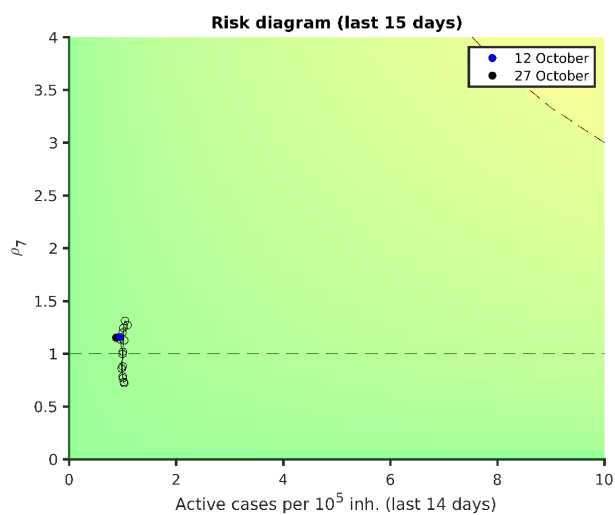
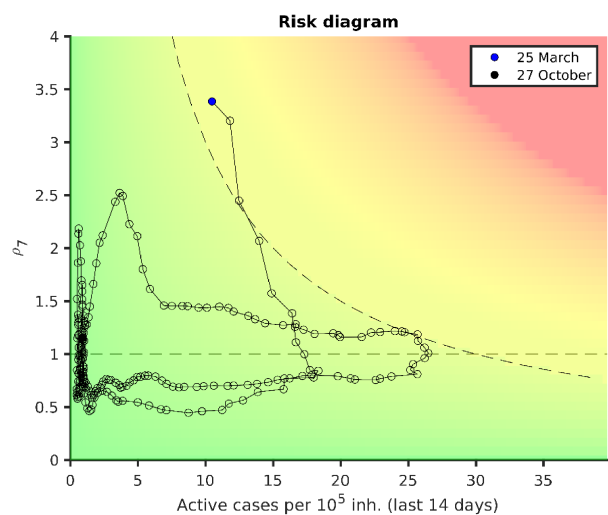
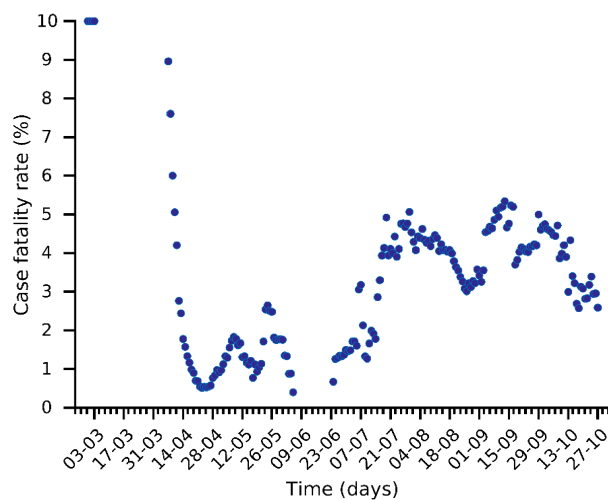
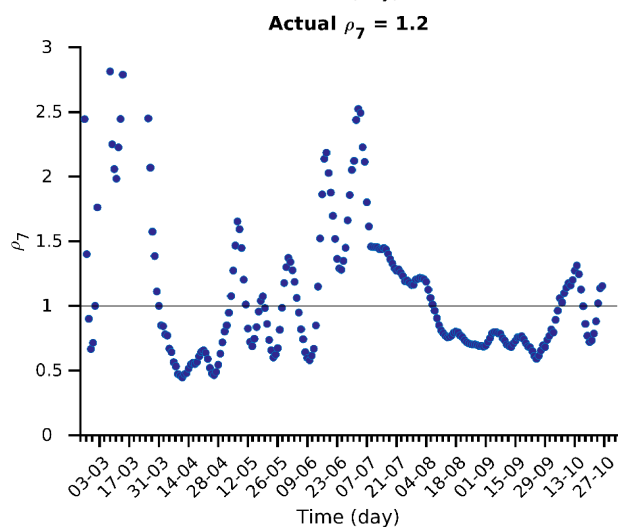
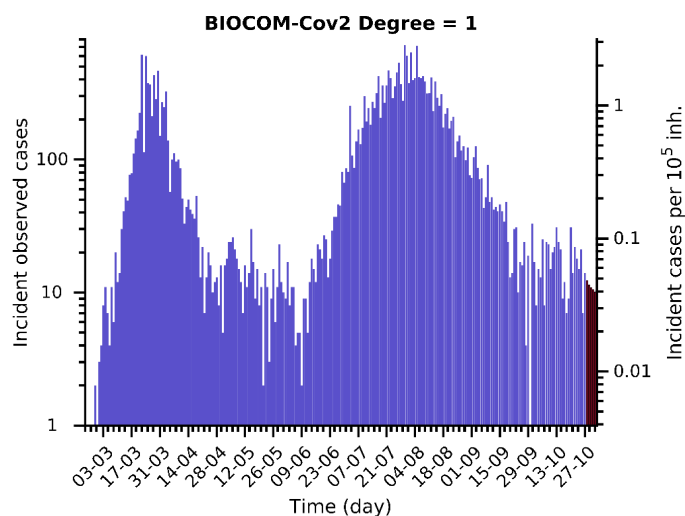
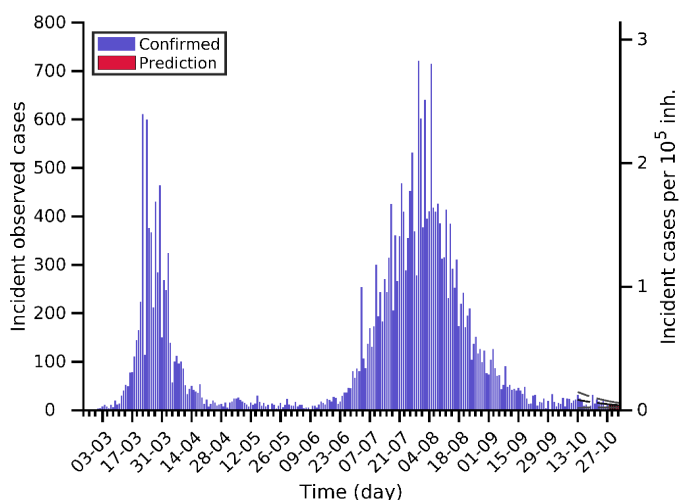


Predictions for next days

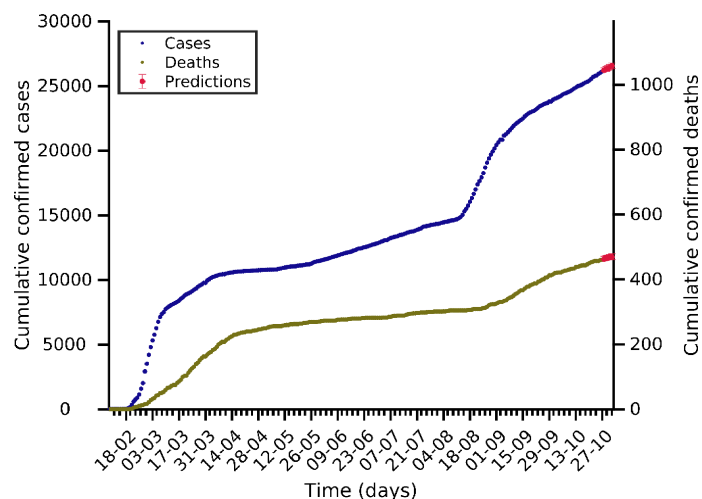
Day	Number of cases	95% Confidence Interval
28-10-2020	27553 (+12)	[27541 - 27606]
30-10-2020	27576 (+11)	[27541 - 27630]
01-11-2020	27596 (+10)	[27541 - 27653]

Current indicators

A ₁₄	EPG	CFR
1	1	2.59 %



South Korea 27-10-2020. Pop: 51.3M. Cumulative incidence: 51/10⁵

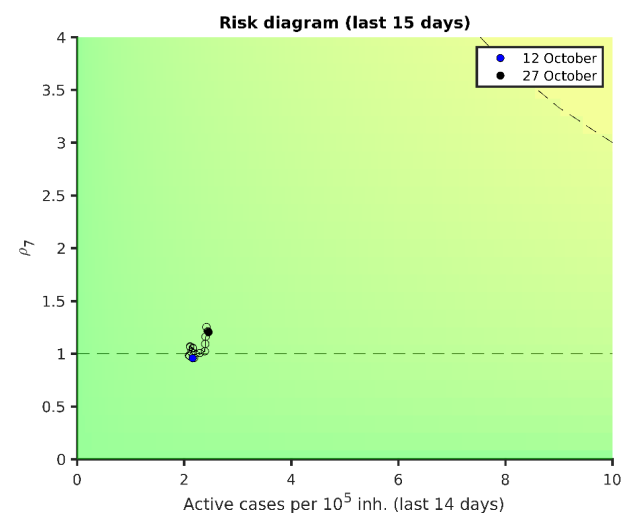
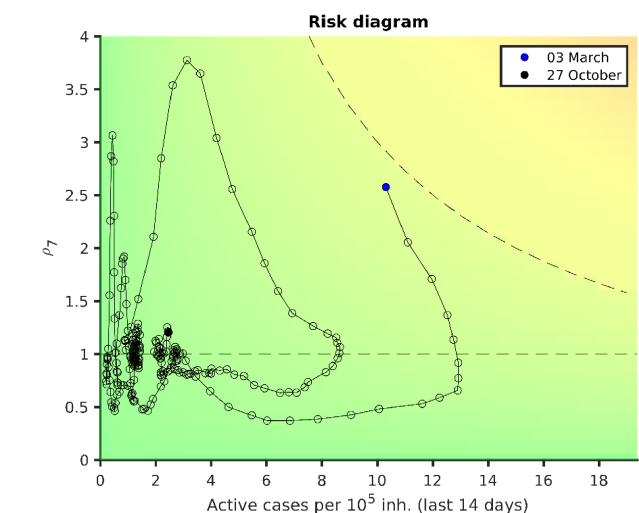
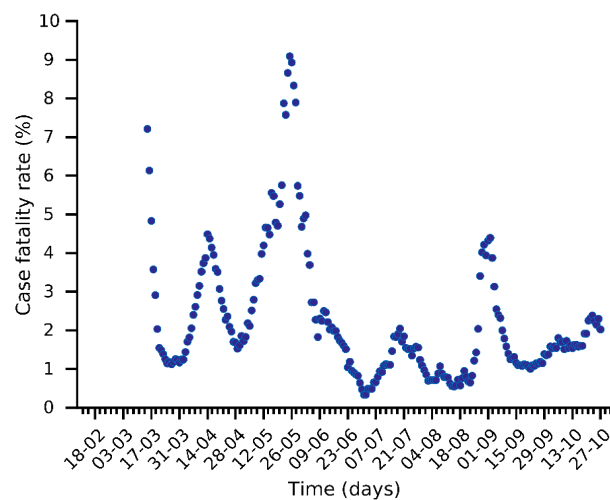
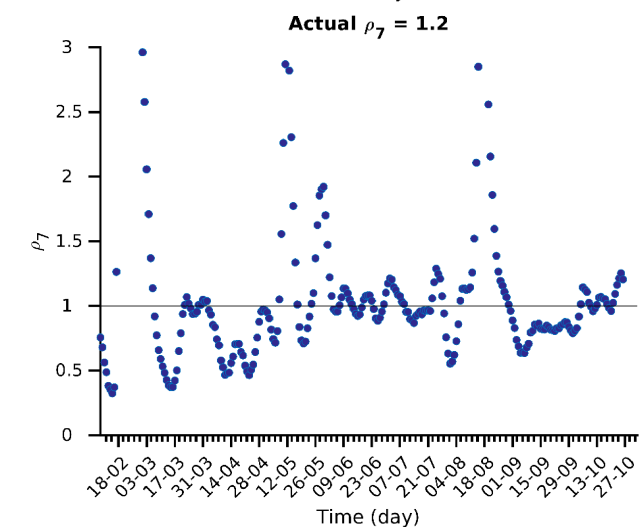
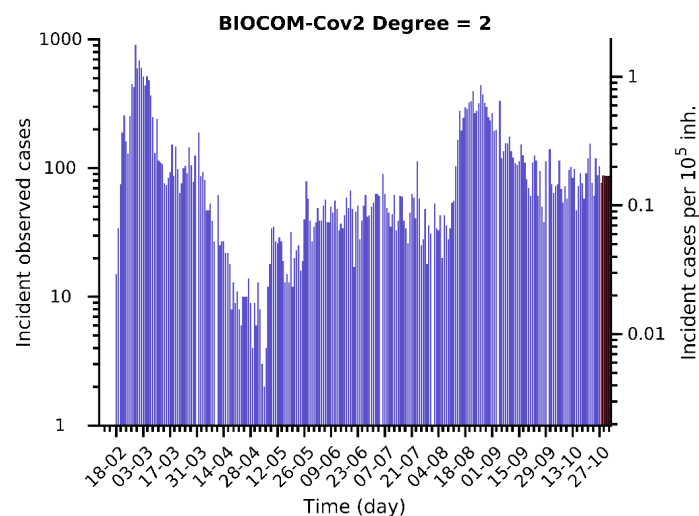
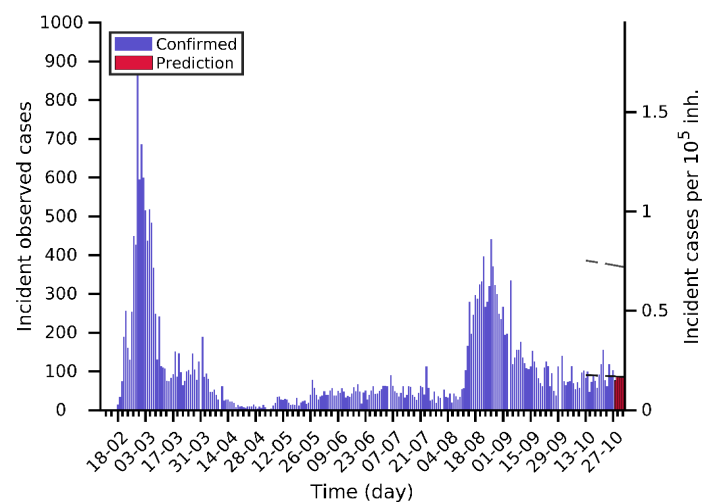


Predictions for next days

Day	Number of cases	95% Confidence Interval
28-10-2020	26222 (+76)	[26146 - 26411]
30-10-2020	26396 (+87)	[26200 - 26592]
01-11-2020	26569 (+86)	[26358 - 26781]

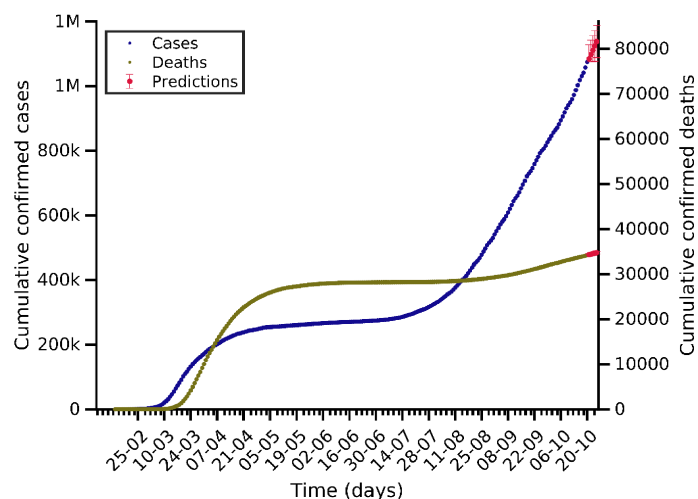
Current indicators

A ₁₄	EPG	CFR
2	3	2.02 %



(3) Analysis and prediction of COVID-19 for Spain and its regions

Spain 20-10-2020. Pop: 47.0M. Cumulative incidence: 2285/10⁵

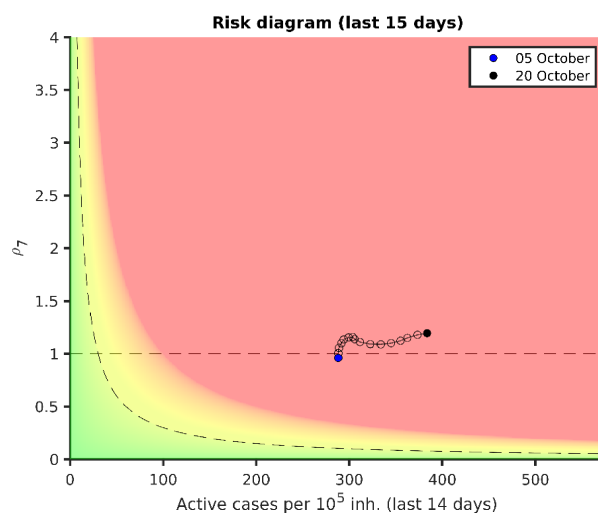
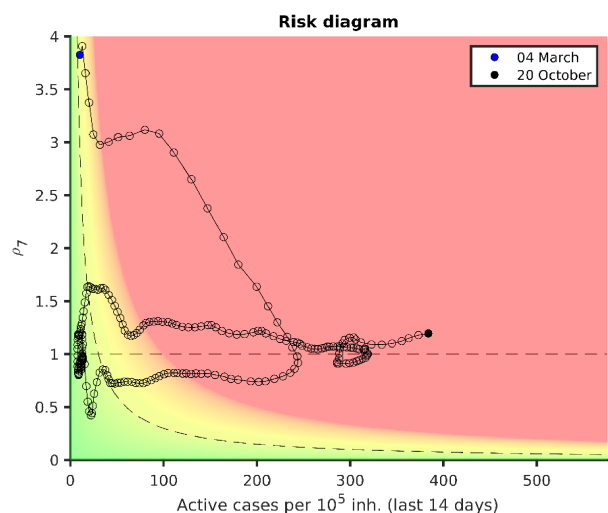
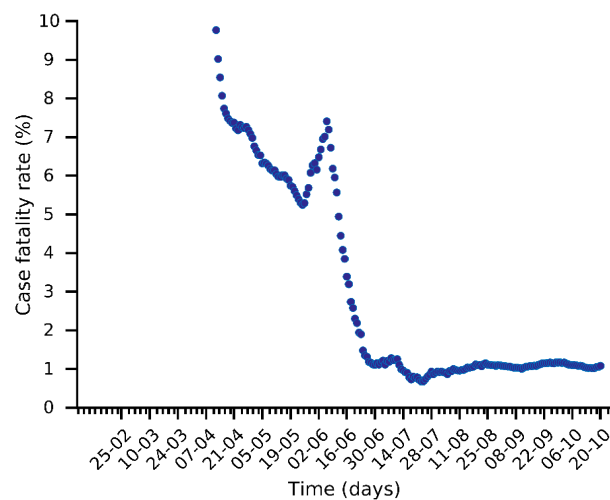
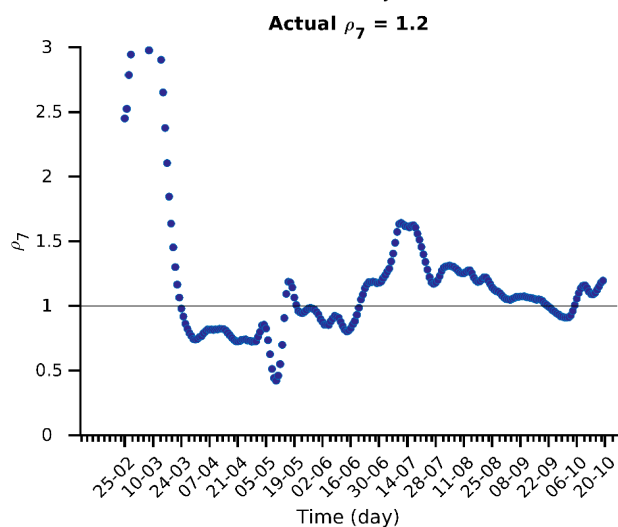
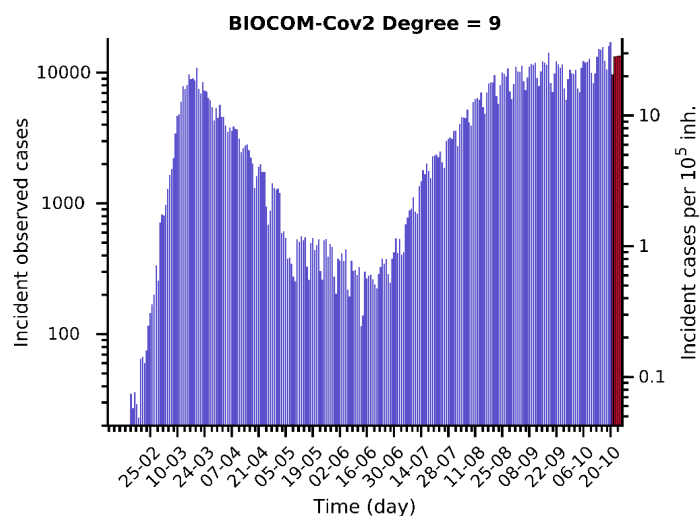
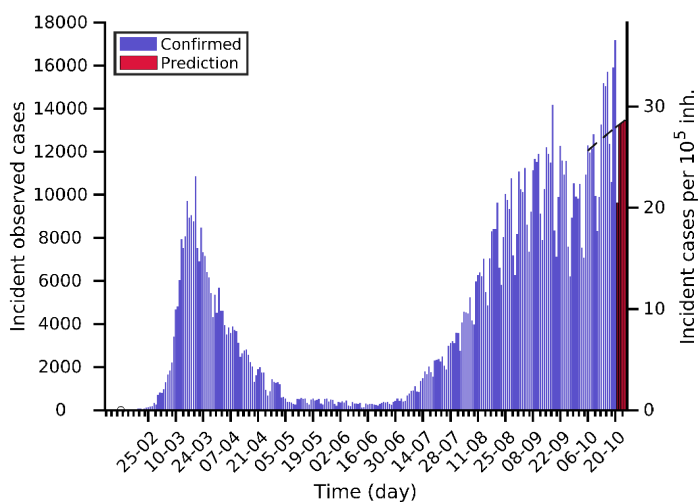


Predictions for next days

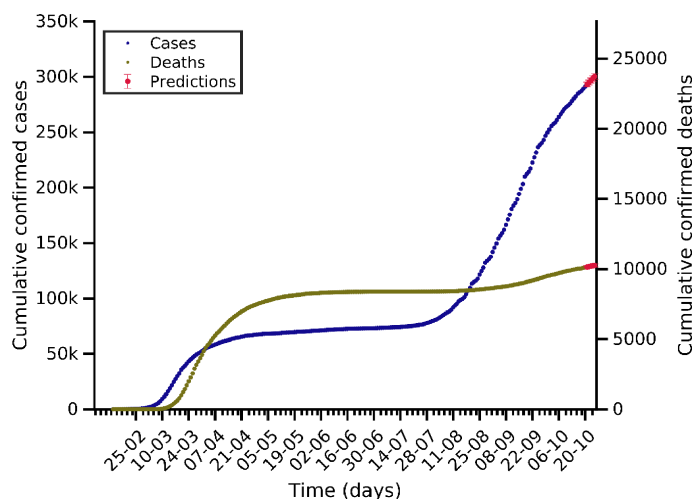
Day	Number of cases	95% Confidence Interval
21-10-2020	1084299 (+9638)	[1074661 - 1128077]
23-10-2020	1110887 (+13329)	[1074661 - 1156508]
25-10-2020	1137753 (+13467)	[1088087 - 1187418]

Current indicators

A ₁₄	EPG	CFR
384	459	1.08 %



Madrid 20-10-2020. Pop: 6.7M. Cumulative incidence: 4372/10⁵

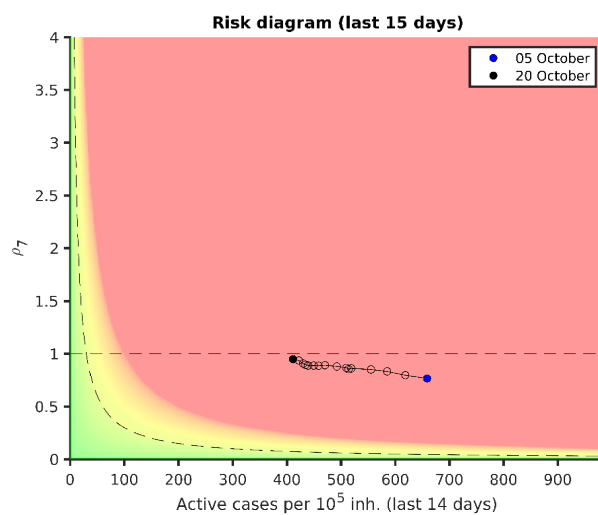
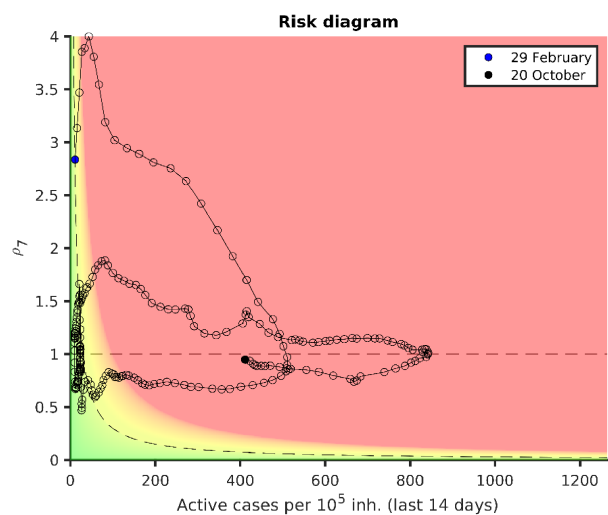
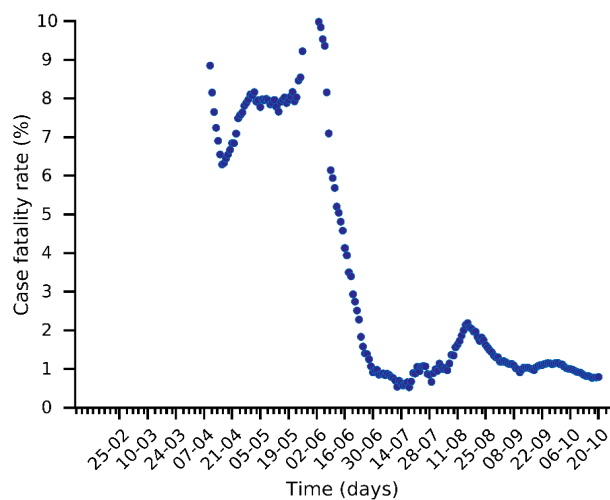
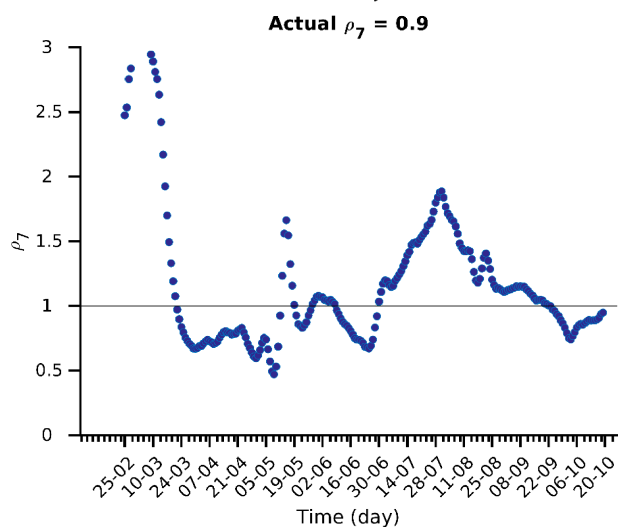
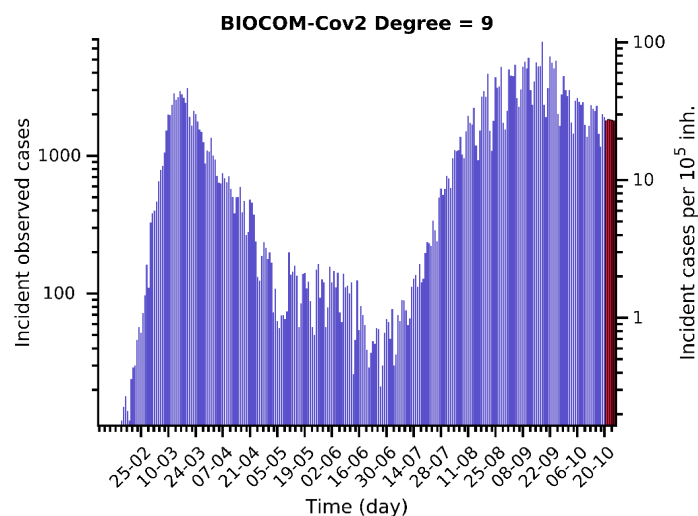
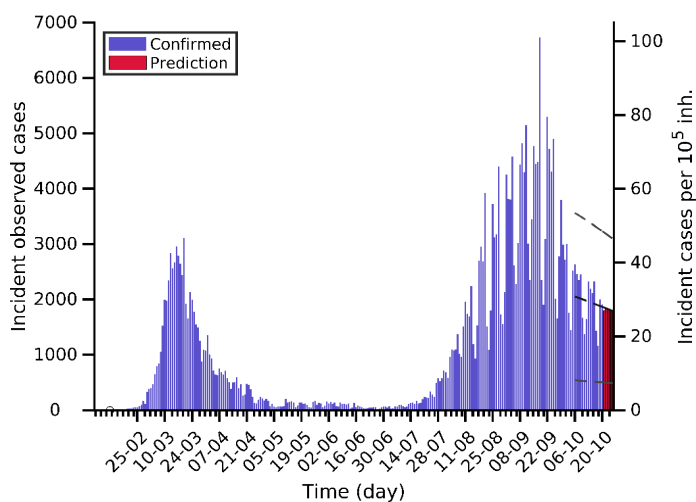


Predictions for next days

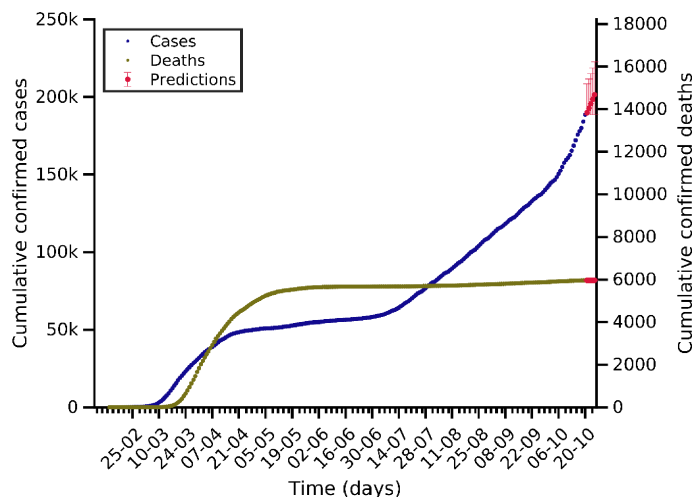
Day	Number of cases	95% Confidence Interval
21-10-2020	293124 (+1801)	[291323 - 295327]
23-10-2020	296788 (+1825)	[294502 - 299075]
25-10-2020	300397 (+1797)	[297939 - 302856]

Current indicators

A ₁₄	EPG	CFR
411	390	0.79 %



Catalunya 20-10-2020. Pop: 7.7M. Cumulative incidence: 2458/10⁵

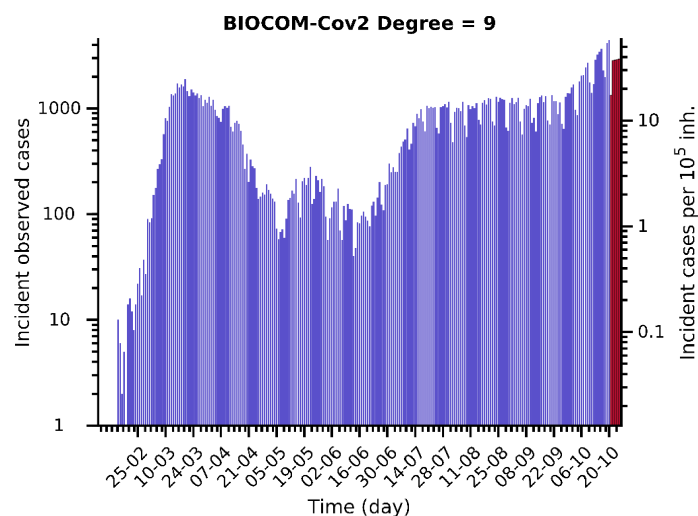
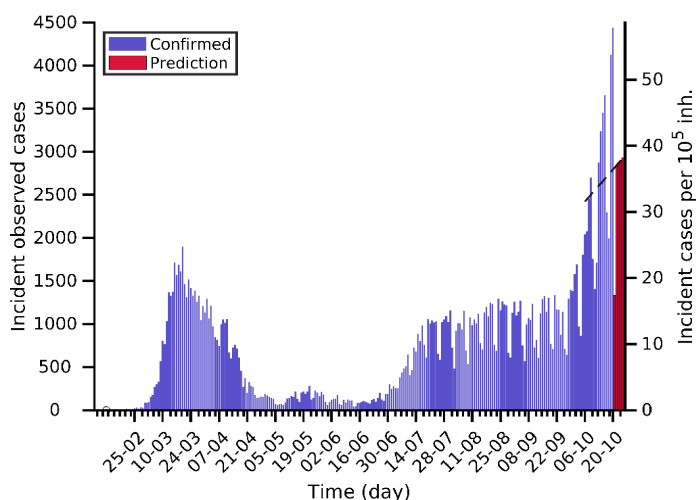


Predictions for next days

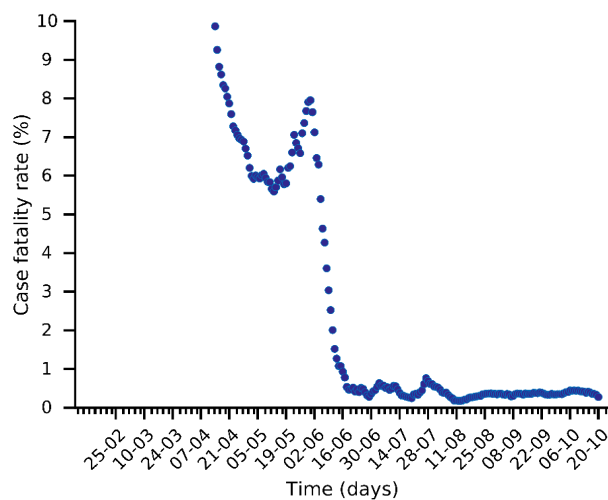
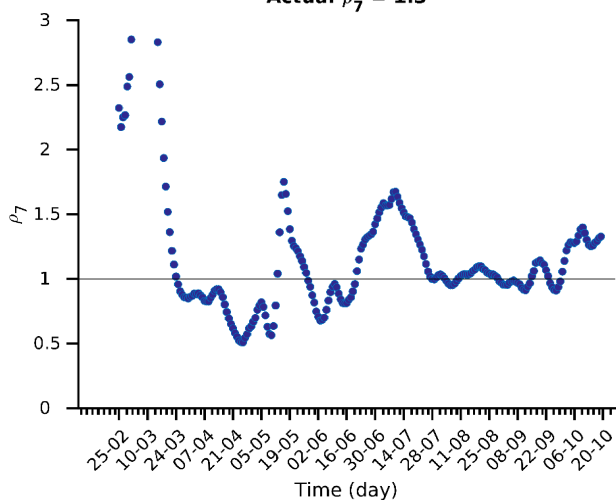
Day	Number of cases	95% Confidence Interval
21-10-2020	189954 (+1334)	[188620 - 208530]
23-10-2020	195677 (+2875)	[188620 - 215069]
25-10-2020	201509 (+2929)	[188620 - 222718]

Current indicators

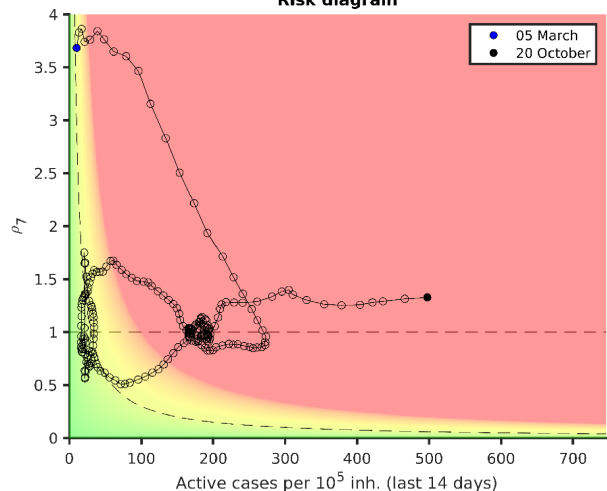
A ₁₄	EPG	CFR
497	660	0.27 %



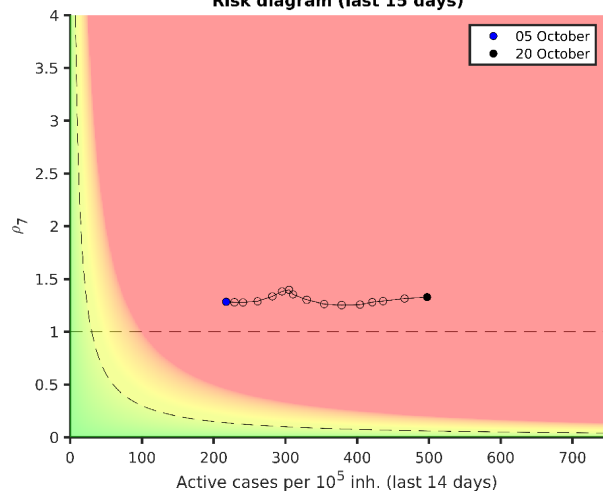
Actual $\rho_7 = 1.3$



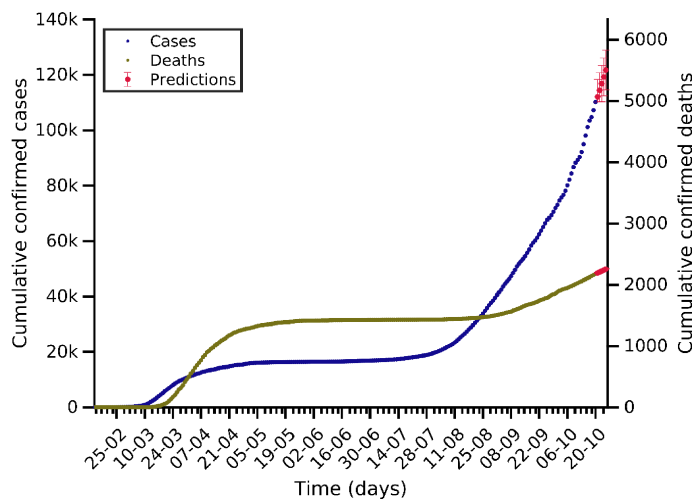
Risk diagram



Risk diagram (last 15 days)



Andalucia 20-10-2020. Pop: 8.4M. Cumulative incidence: 1310/10⁵

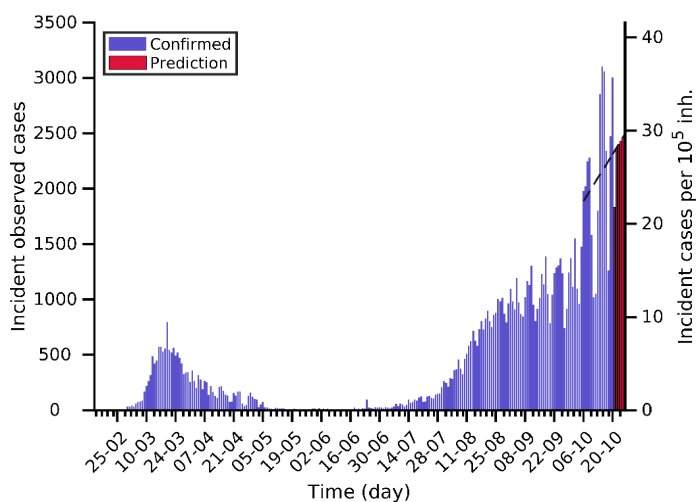


Predictions for next days

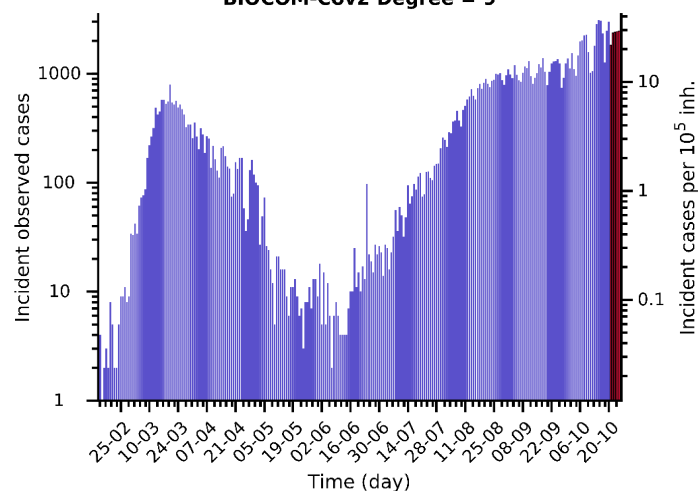
Day	Number of cases	95% Confidence Interval
21-10-2020	112066 (+1831)	[110235 - 118314]
23-10-2020	116839 (+2402)	[110302 - 123375]
25-10-2020	121733 (+2463)	[114543 - 128923]

Current indicators

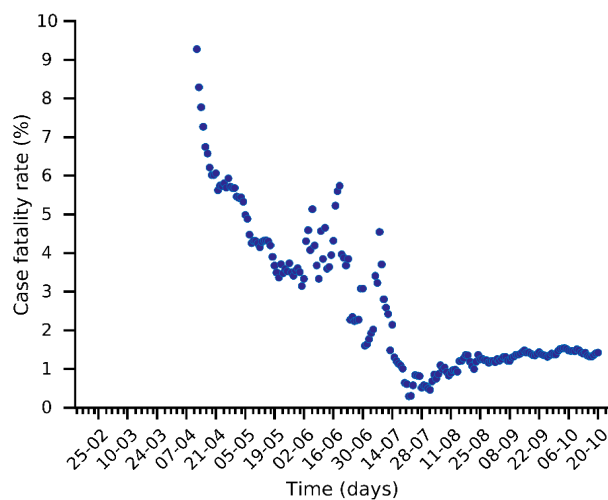
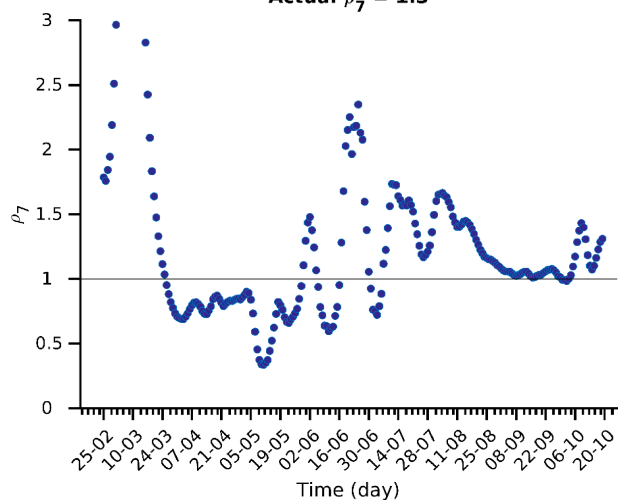
A ₁₄	EPG	CFR
358	468	1.42 %



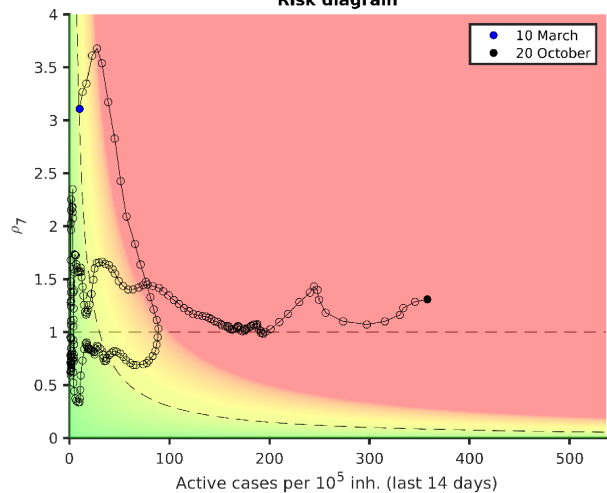
BIOCOM-Cov2 Degree = 9



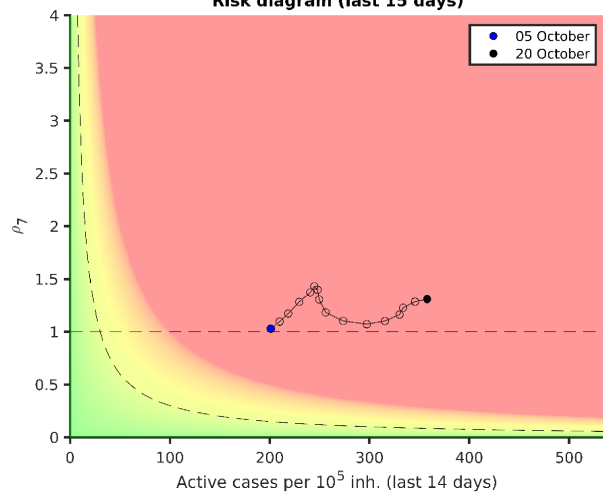
Actual $\rho_7 = 1.3$



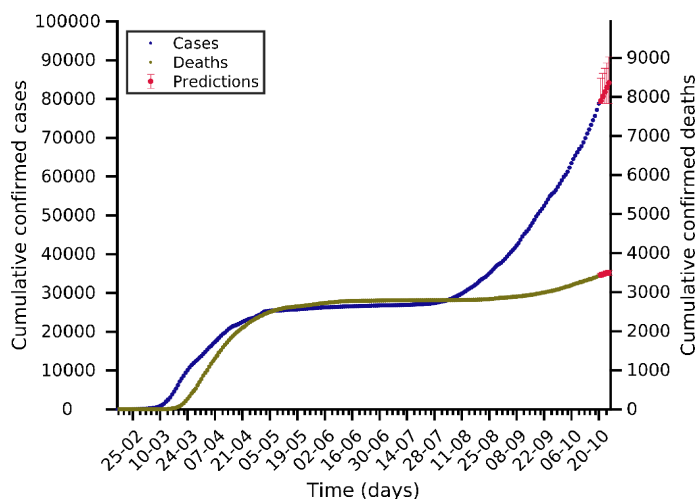
Risk diagram



Risk diagram (last 15 days)



Castilla Leon 20-10-2020. Pop: 2.4M. Cumulative incidence: 3286/10⁵

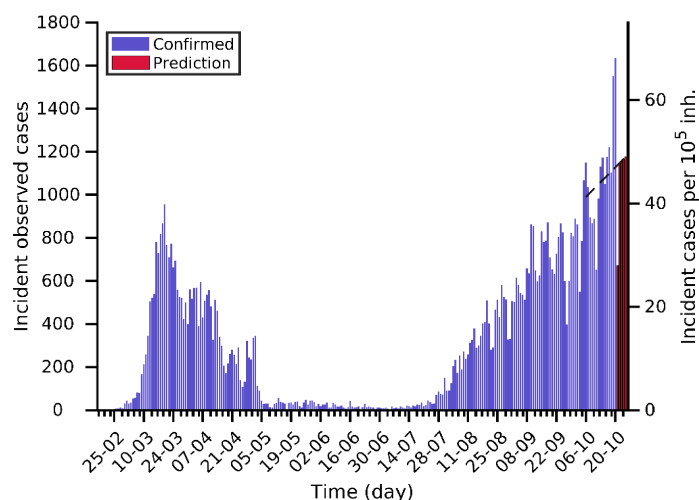


Predictions for next days

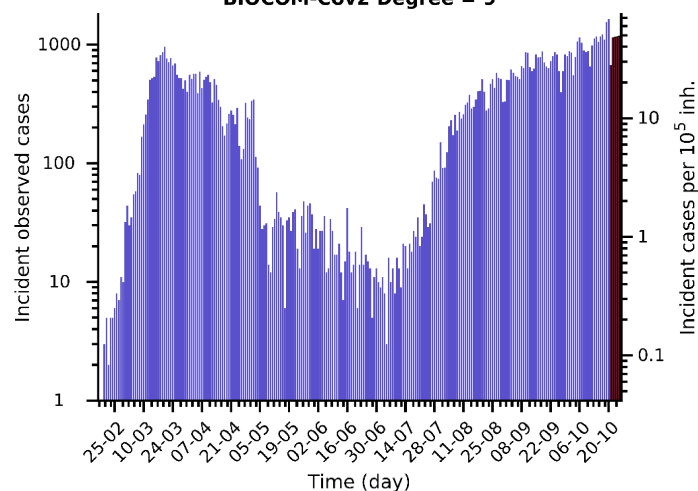
Day	Number of cases	95% Confidence Interval
21-10-2020	79521 (+671)	[78850 - 85369]
23-10-2020	81827 (+1158)	[78850 - 87929]
25-10-2020	84171 (+1177)	[78850 - 90839]

Current indicators

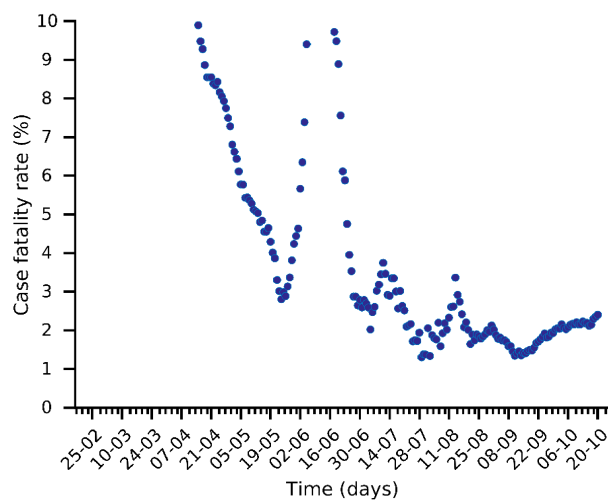
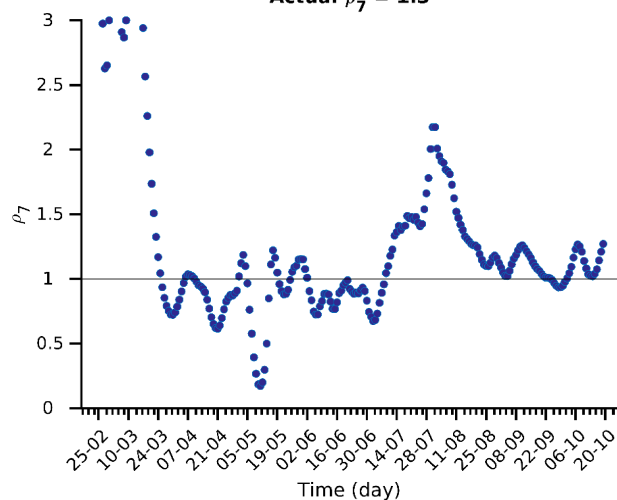
A ₁₄	EPG	CFR
640	814	2.40 %



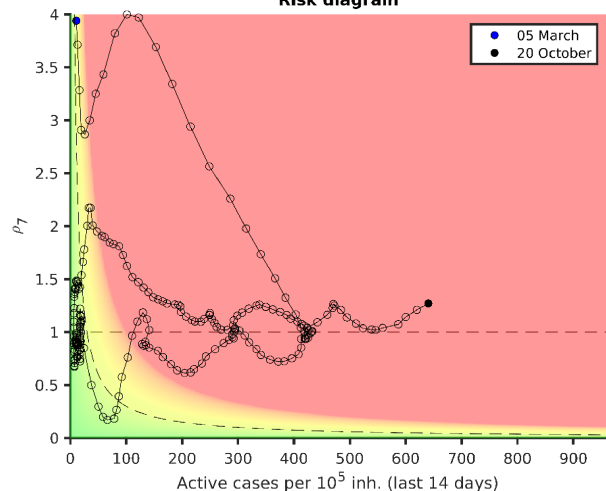
BIOCOM-Cov2 Degree = 9



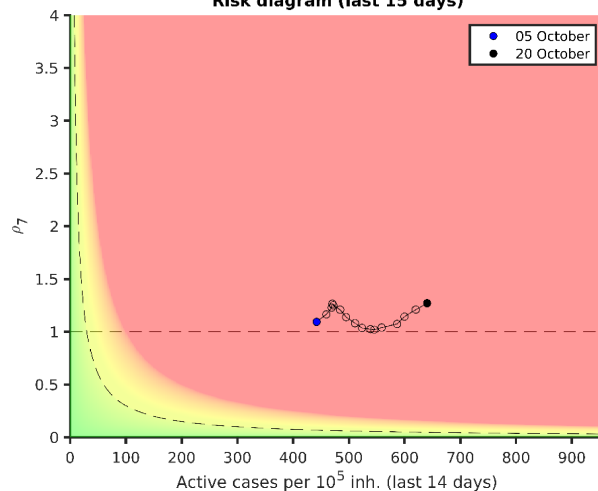
Actual $\rho_7 = 1.3$



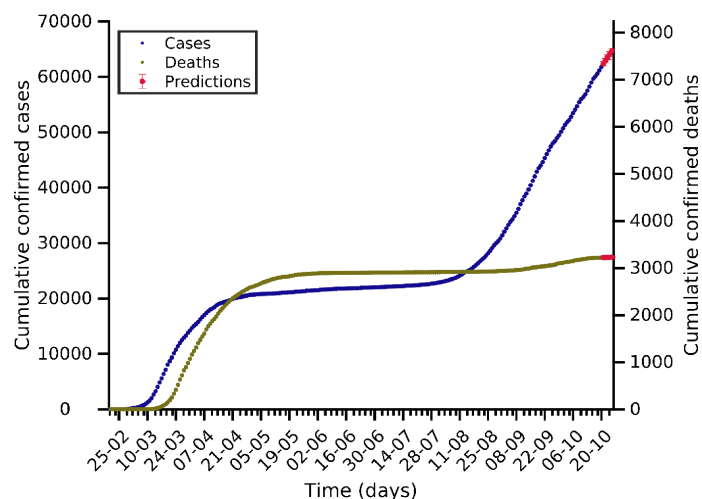
Risk diagram



Risk diagram (last 15 days)



Castilla-La Mancha 20-10-2020. Pop: 2.0M. Cumulative incidence: 3040/10⁵

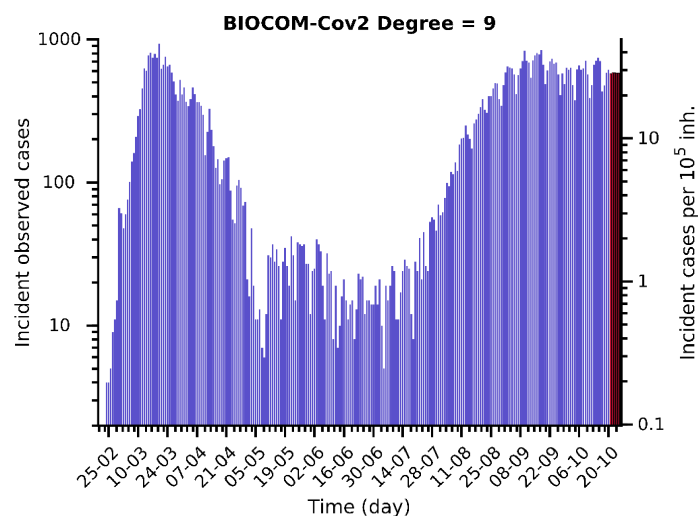
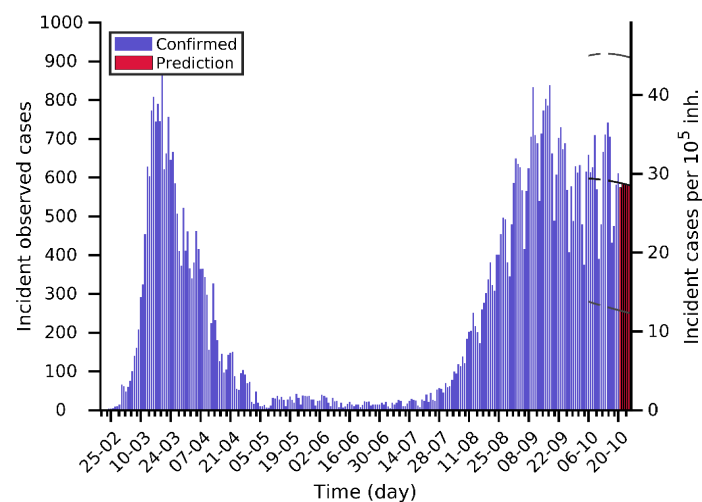


Predictions for next days

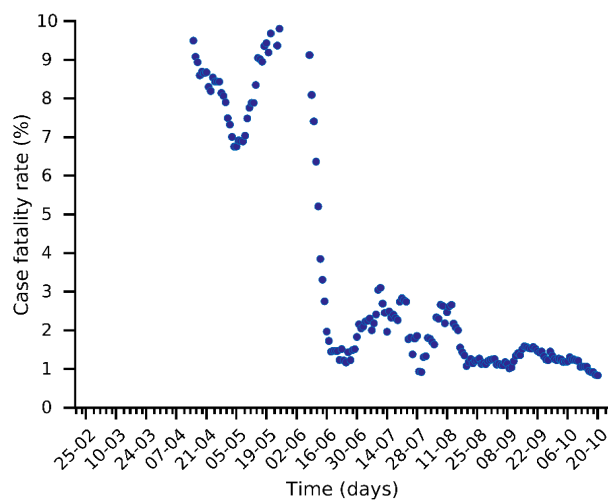
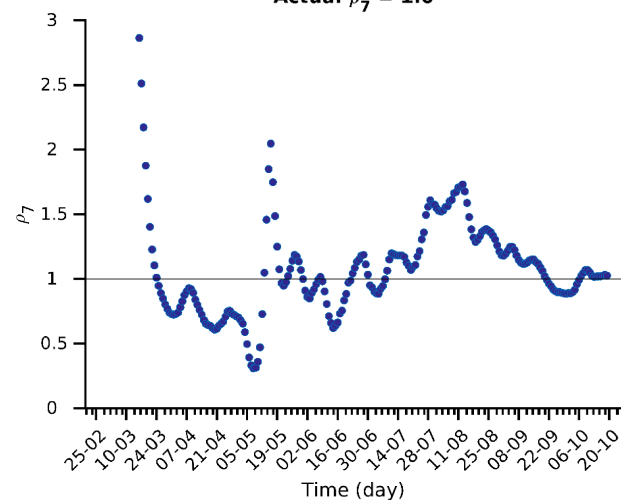
Day	Number of cases	95% Confidence Interval
21-10-2020	62363 (+574)	[61953 - 62773]
23-10-2020	63532 (+584)	[63106 - 63958]
25-10-2020	64695 (+581)	[64234 - 65156]

Current indicators

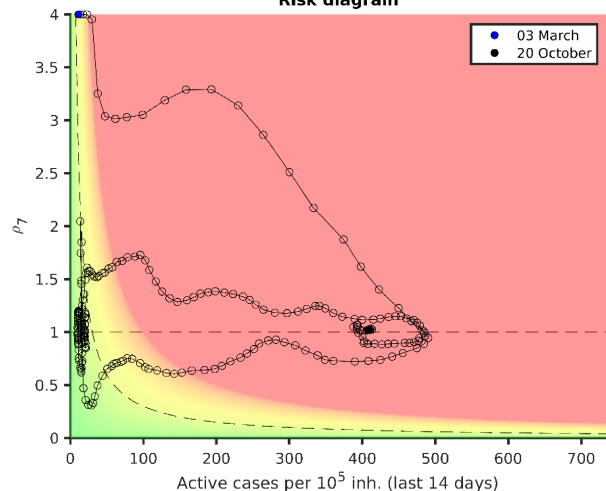
A ₁₄	EPG	CFR
409	419	0.83 %



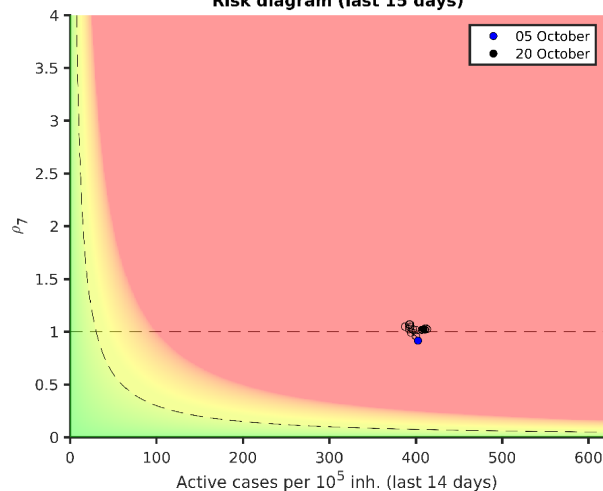
Actual $\rho_7 = 1.0$



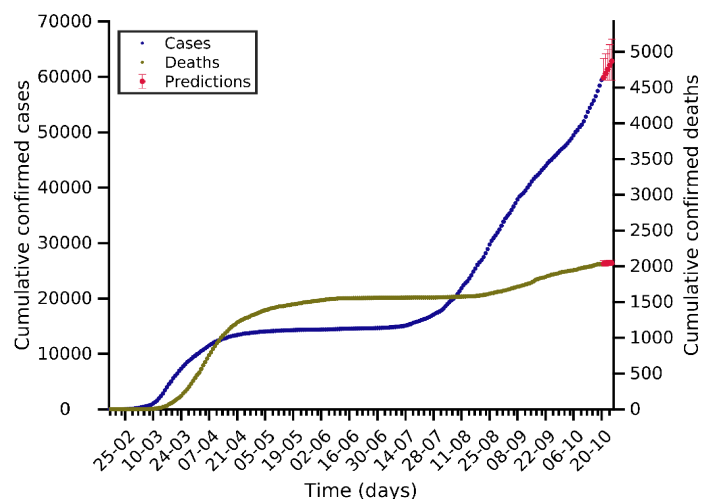
Risk diagram



Risk diagram (last 15 days)



Euskadi 20-10-2020. Pop: 2.2M. Cumulative incidence: 2691/10⁵

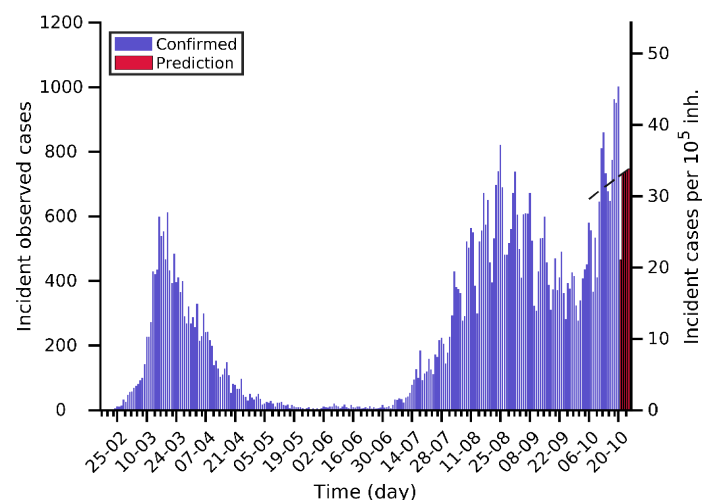


Predictions for next days

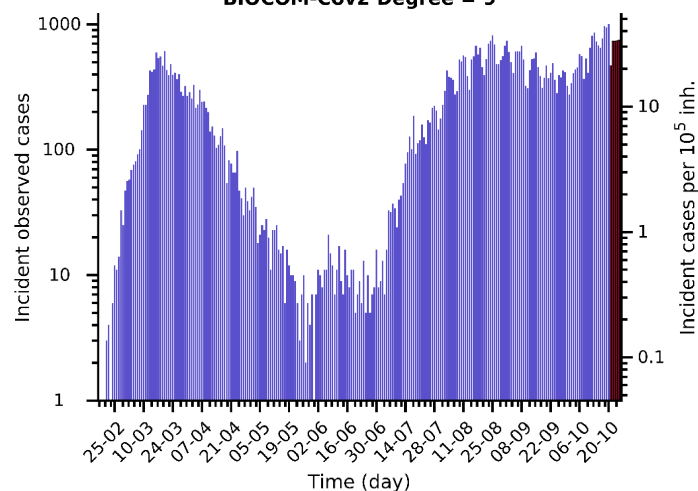
Day	Number of cases	95% Confidence Interval
21-10-2020	59887 (+466)	[59421 - 63348]
23-10-2020	61357 (+737)	[59421 - 64964]
25-10-2020	62846 (+747)	[59421 - 66777]

Current indicators

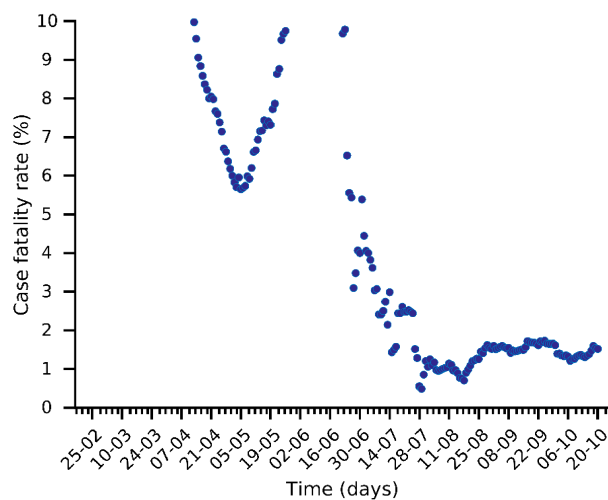
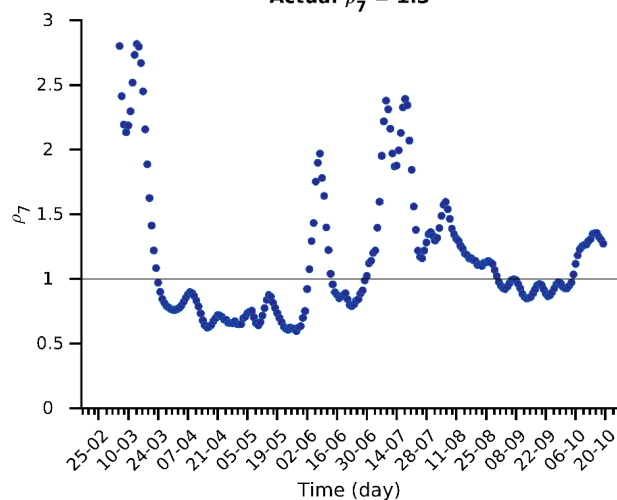
A ₁₄	EPG	CFR
450	573	1.52 %



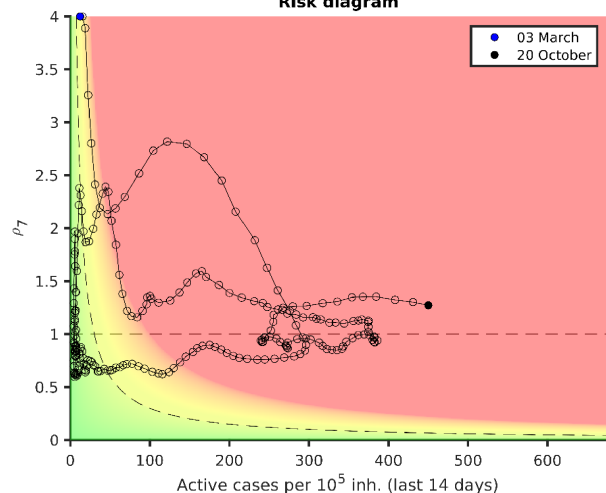
BIOCOM-Cov2 Degree = 9



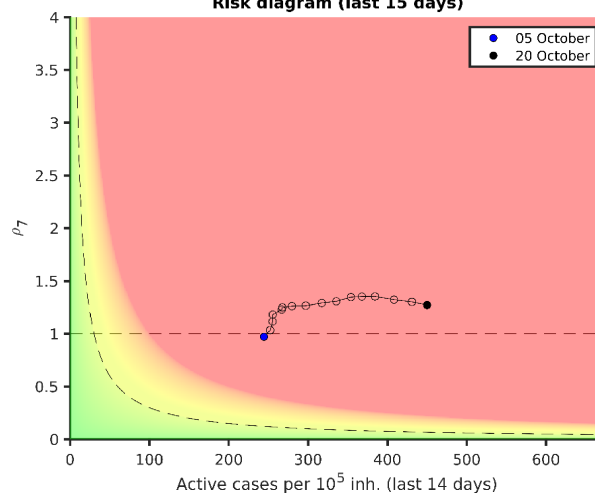
Actual $\rho_7 = 1.3$



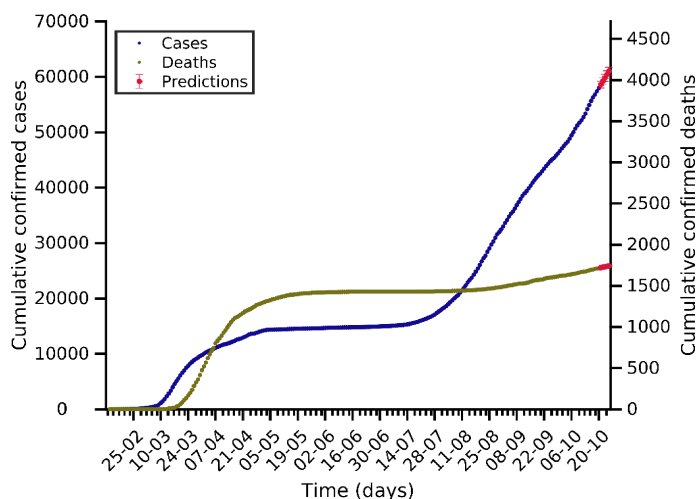
Risk diagram



Risk diagram (last 15 days)



C Valenciana 20-10-2020. Pop: 5.0M. Cumulative incidence: 1159/10⁵

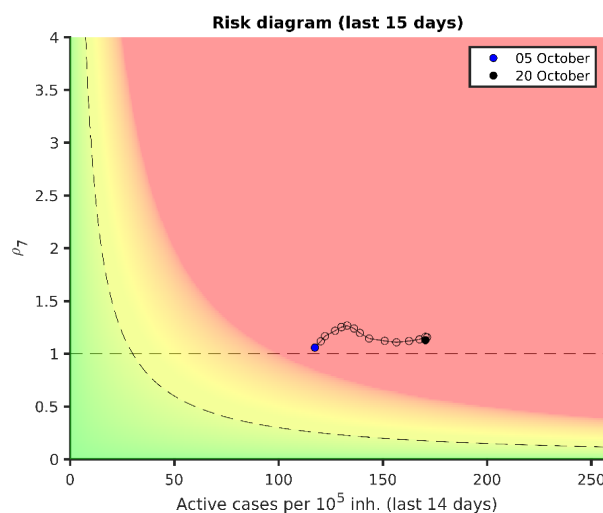
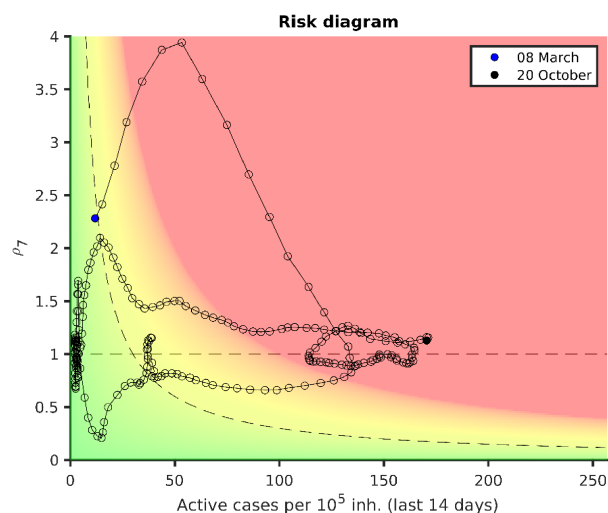
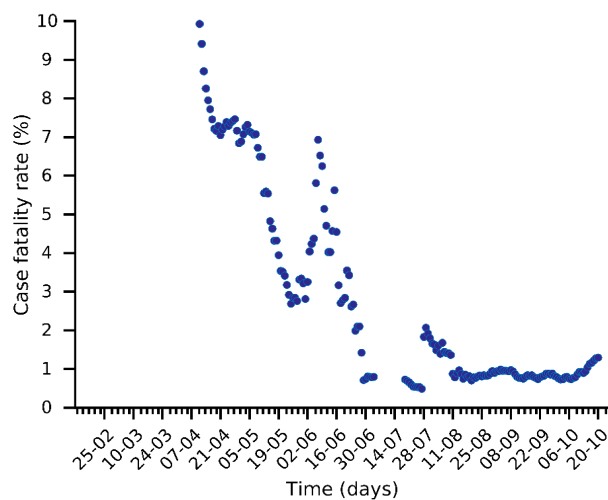
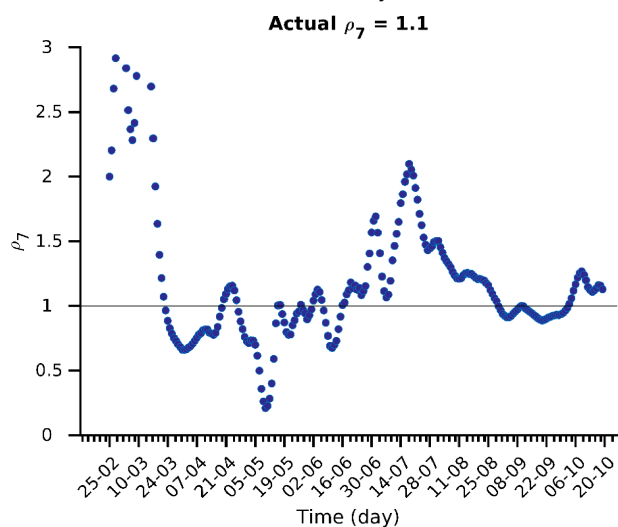
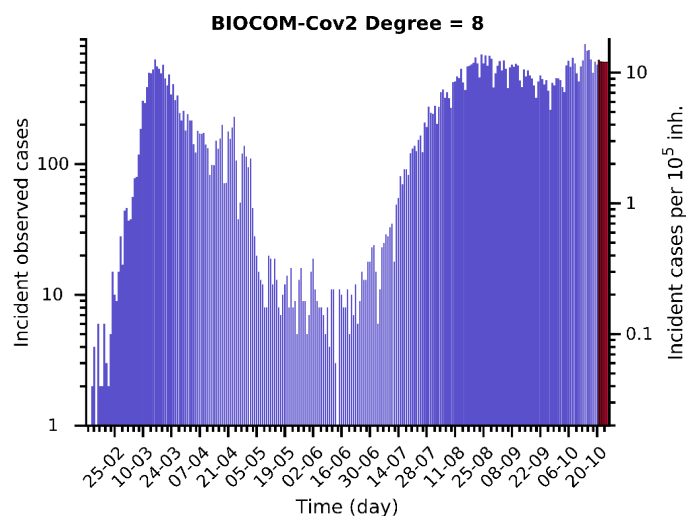
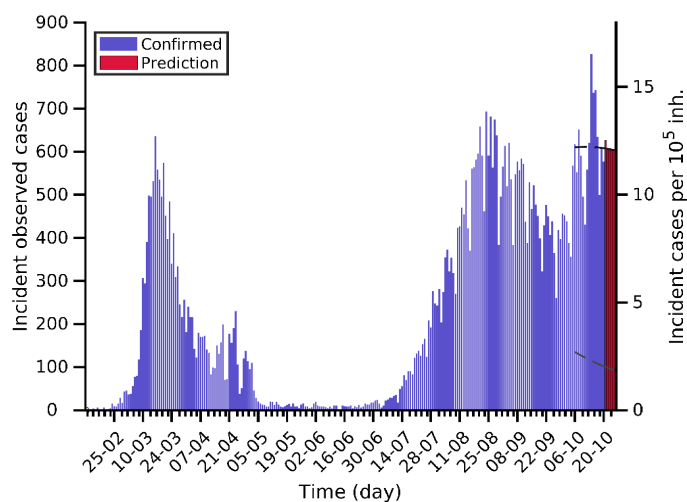


Predictions for next days

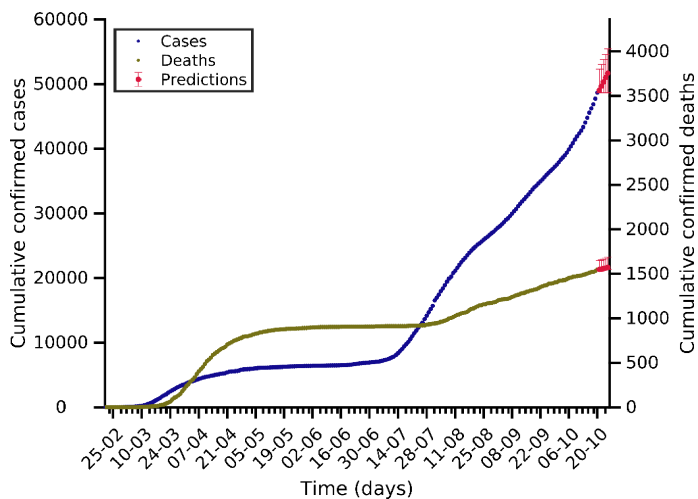
Day	Number of cases	95% Confidence Interval
21-10-2020	58611 (+626)	[57985 - 59238]
23-10-2020	59823 (+606)	[59171 - 60476]
25-10-2020	61032 (+604)	[60327 - 61738]

Current indicators

A ₁₄	EPG	CFR
170	192	1.29 %



Aragon 20-10-2020. Pop: 1.3M. Cumulative incidence: 3689/10⁵

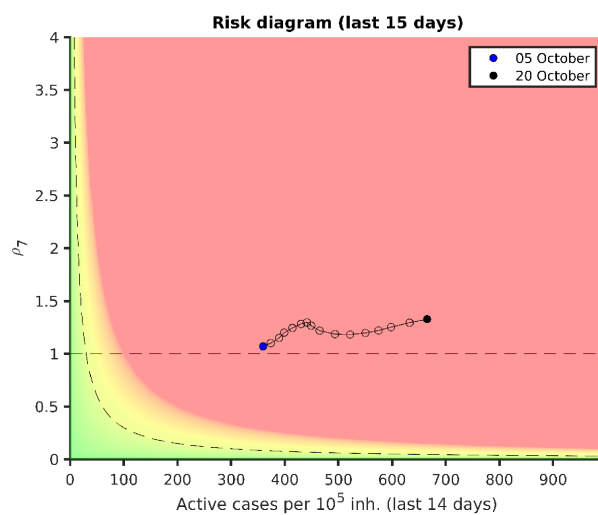
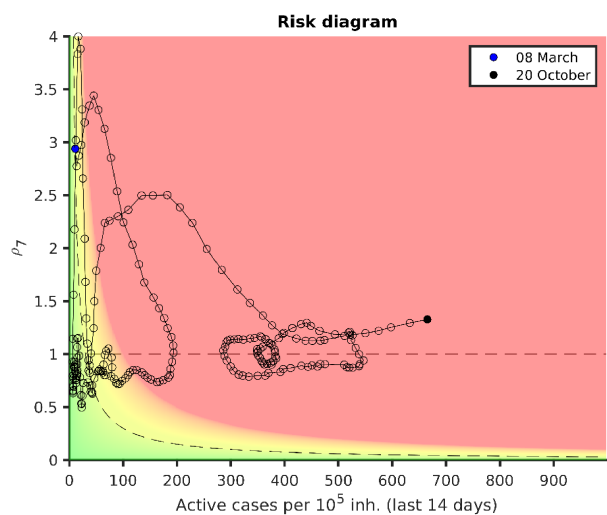
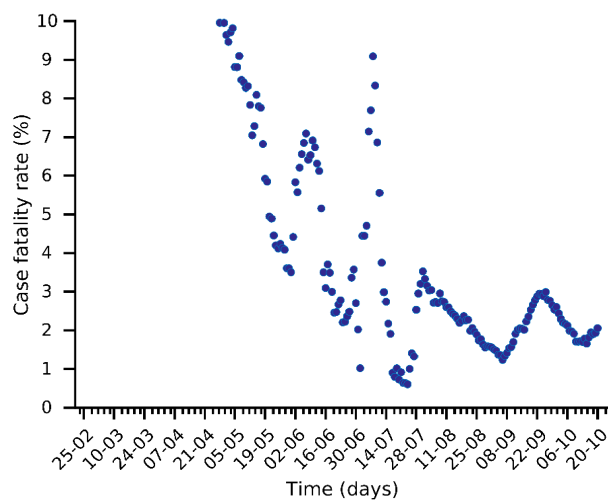
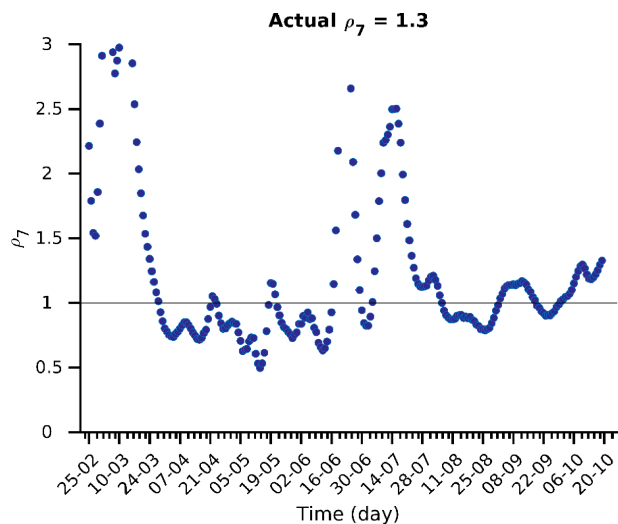
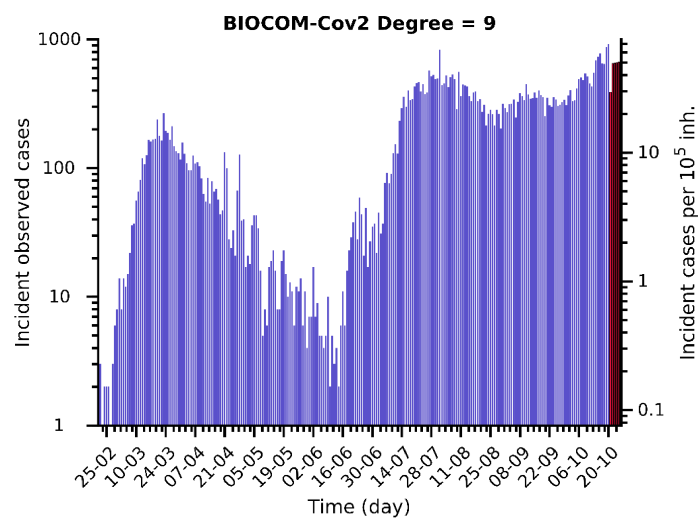
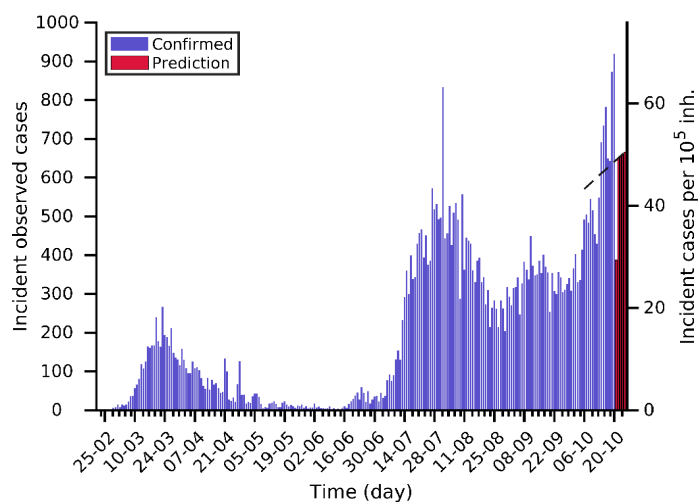


Predictions for next days

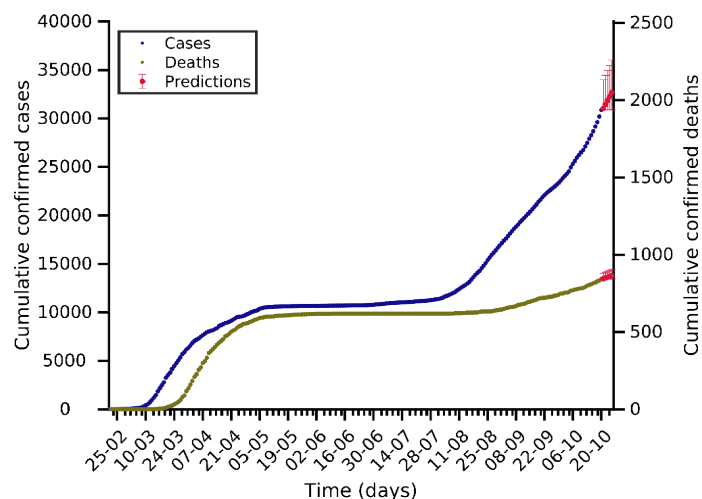
Day	Number of cases	95% Confidence Interval
21-10-2020	49055 (+387)	[48668 - 52350]
23-10-2020	50361 (+656)	[48668 - 53798]
25-10-2020	51687 (+666)	[48668 - 55437]

Current indicators

A ₁₄	EPG	CFR
665	883	2.05 %



Galicia 20-10-2020. Pop: 2.7M. Cumulative incidence: 1144/10⁵

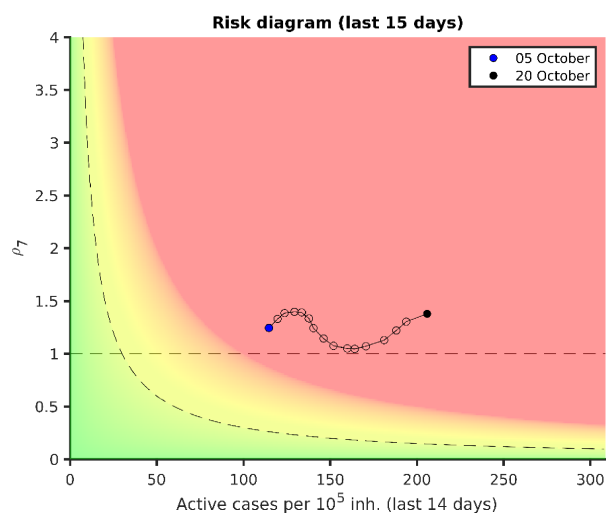
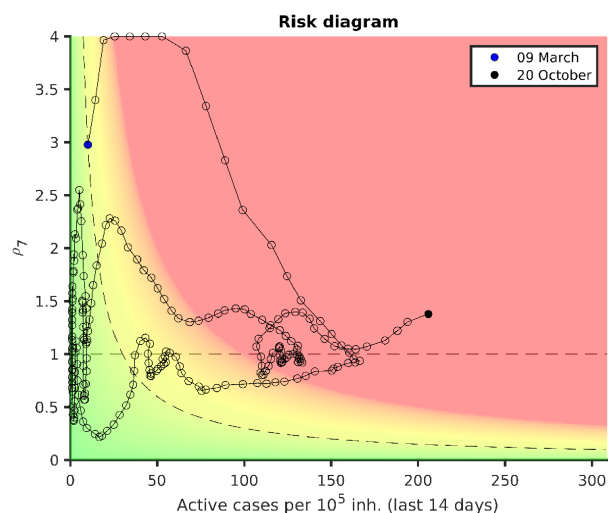
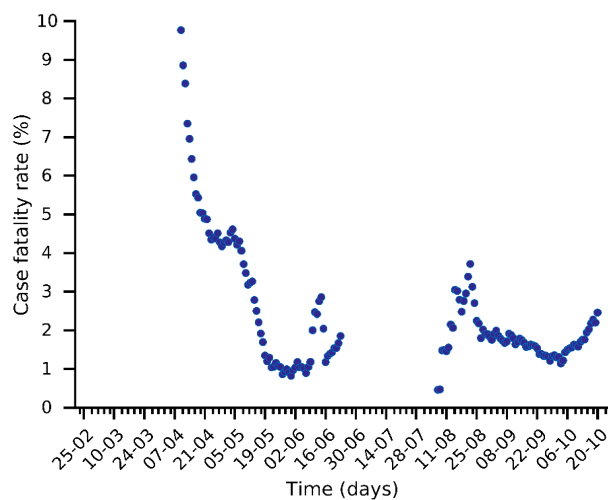
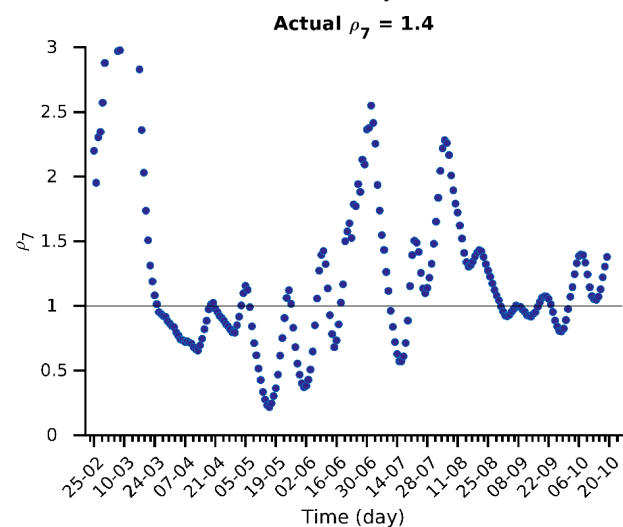
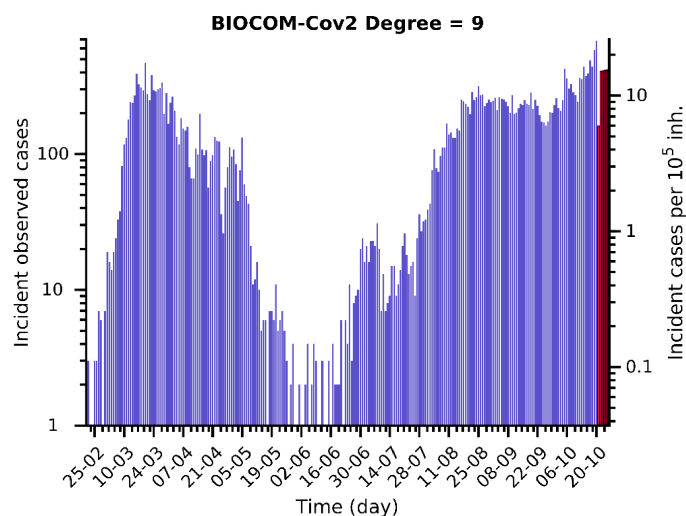
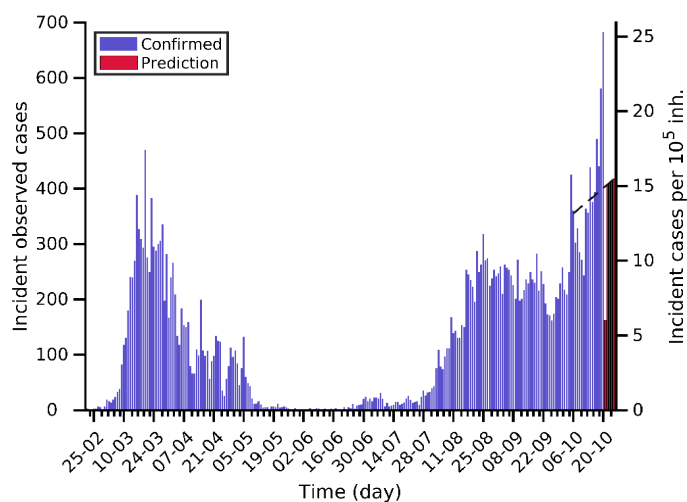


Predictions for next days

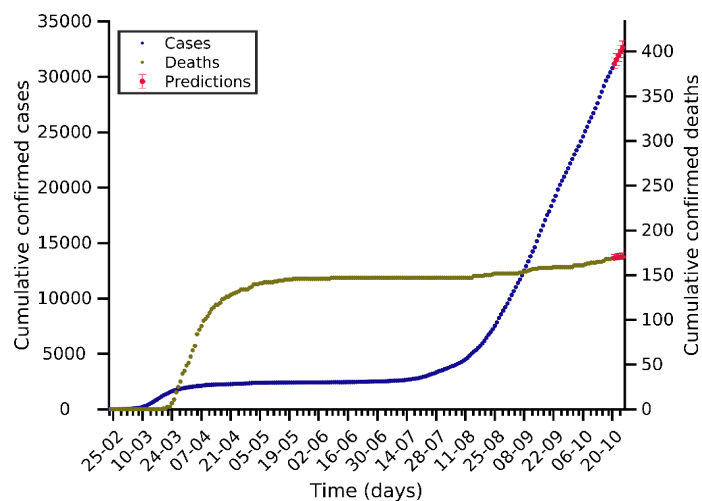
Day	Number of cases	95% Confidence Interval
21-10-2020	31042 (+163)	[30879 - 33982]
23-10-2020	31860 (+411)	[30879 - 34927]
25-10-2020	32692 (+417)	[30879 - 36040]

Current indicators

A ₁₄	EPG	CFR
206	284	2.46 %



Murcia 20-10-2020. Pop: 1.5M. Cumulative incidence: 2060/10⁵

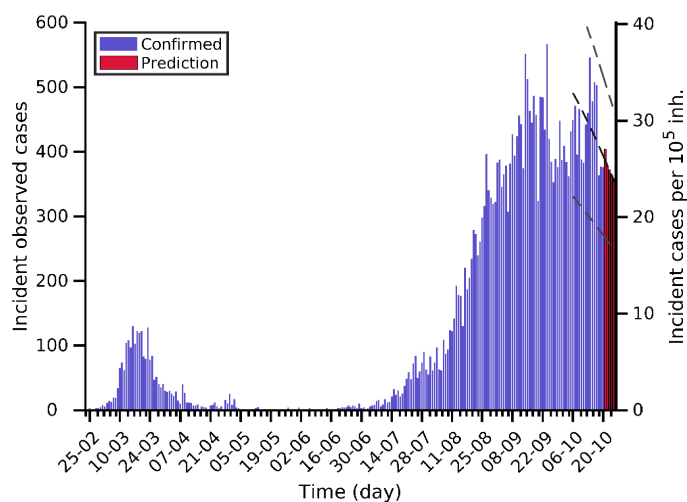


Predictions for next days

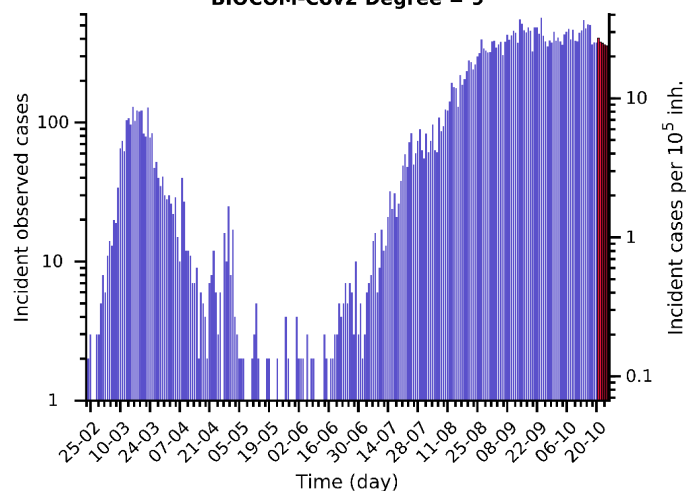
Day	Number of cases	95% Confidence Interval
21-10-2020	31185 (+404)	[30781 - 31712]
23-10-2020	31936 (+372)	[31391 - 32481]
25-10-2020	32657 (+357)	[32074 - 33239]

Current indicators

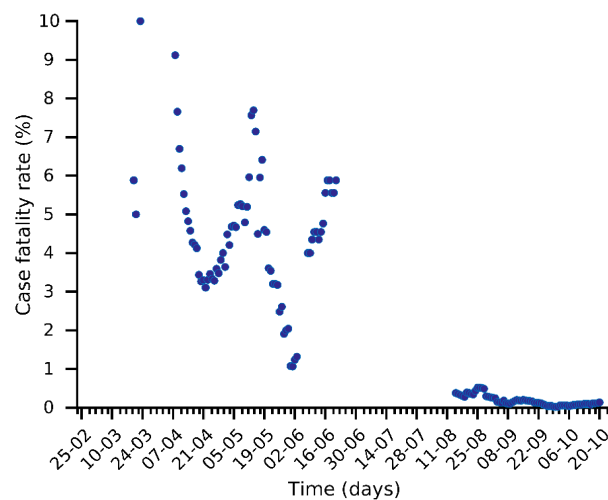
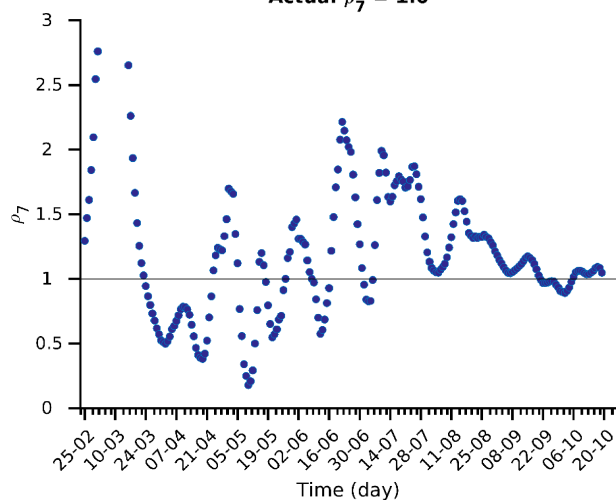
A ₁₄	EPG	CFR
412	432	0.13 %



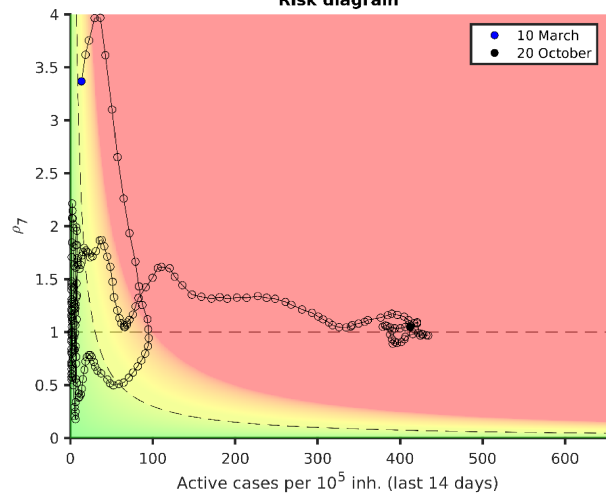
BIOCOM-Cov2 Degree = 9



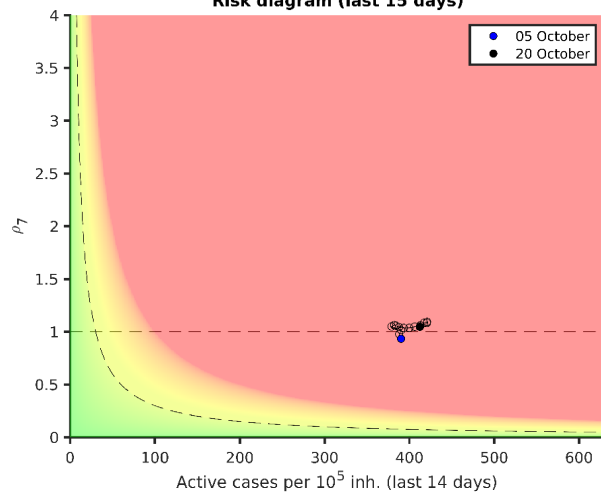
Actual $\rho_7 = 1.0$



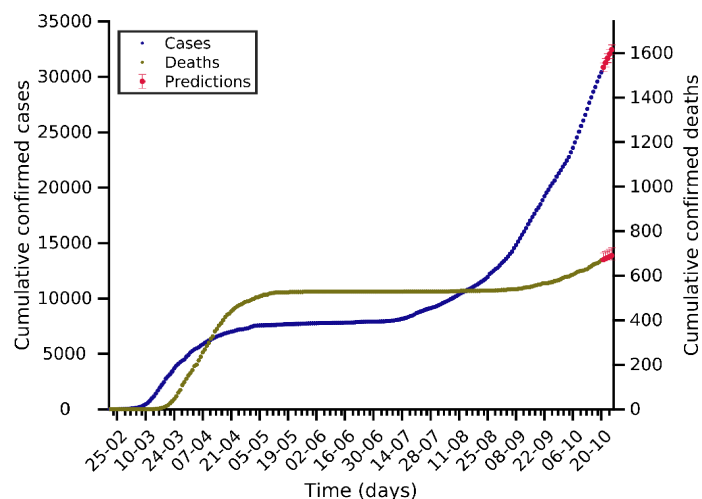
Risk diagram



Risk diagram (last 15 days)



Navarra 20-10-2020. Pop: 0.7M. Cumulative incidence: 4650/10⁵

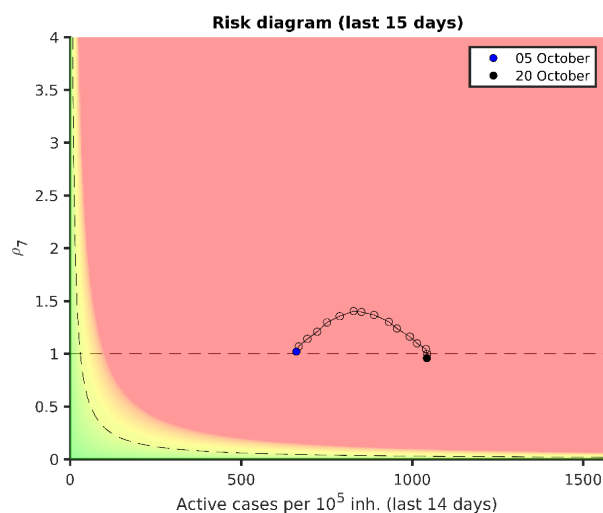
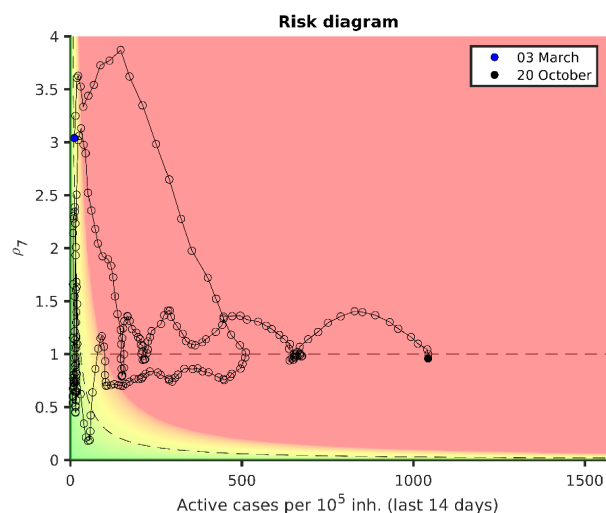
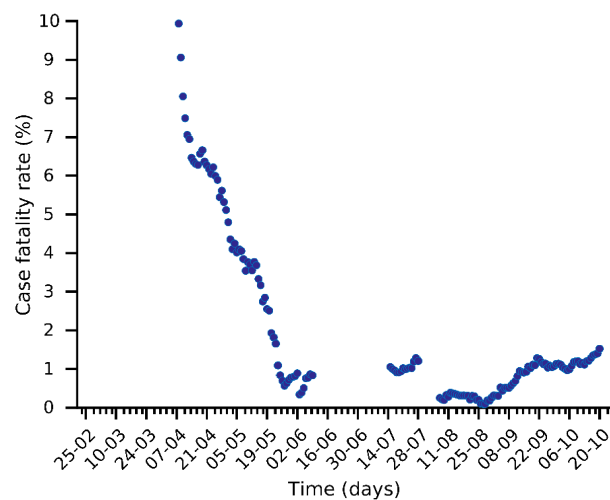
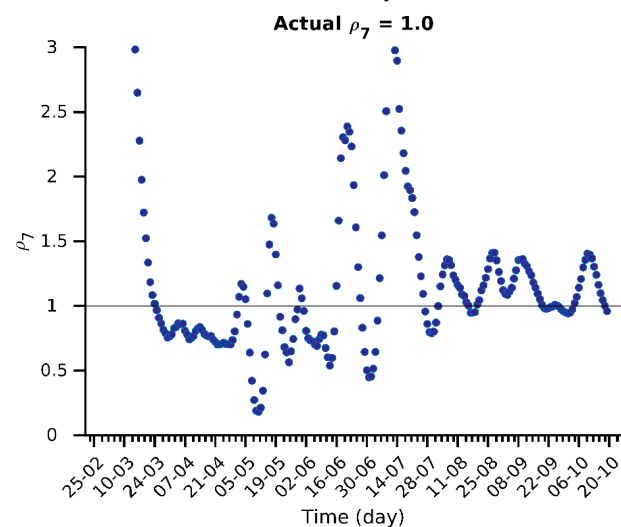
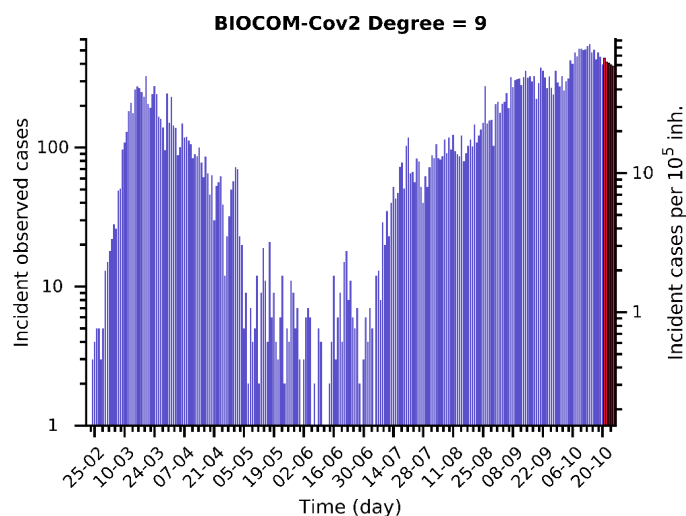
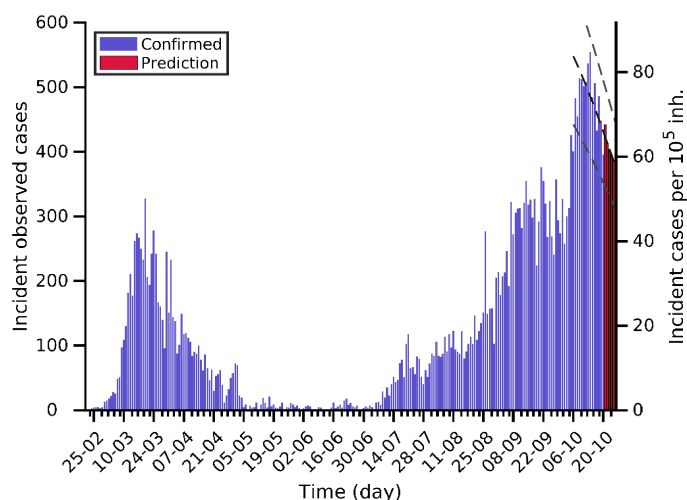


Predictions for next days

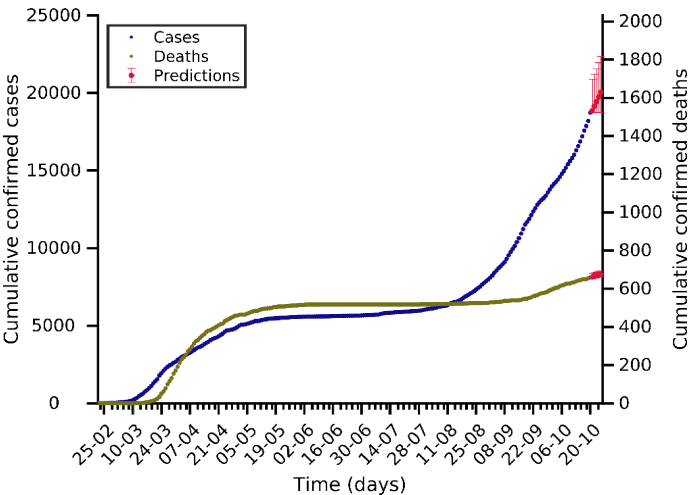
Day	Number of cases	95% Confidence Interval
21-10-2020	30861 (+442)	[30474 - 31247]
23-10-2020	31678 (+404)	[31278 - 32078]
25-10-2020	32458 (+386)	[32031 - 32886]

Current indicators

A ₁₄	EPG	CFR
1042	999	1.52 %

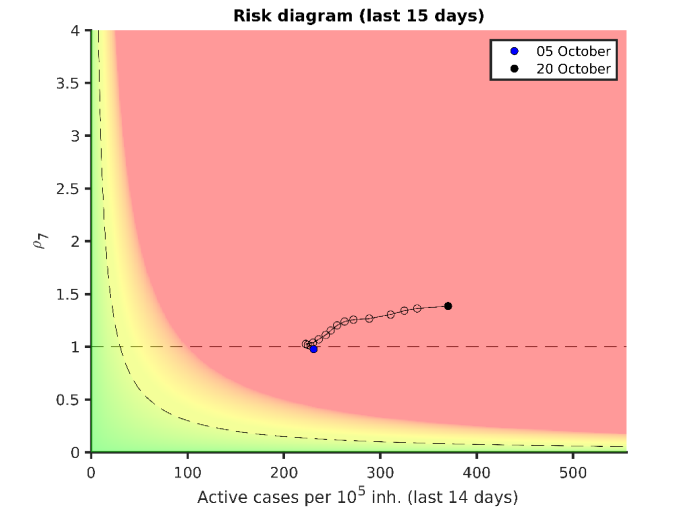
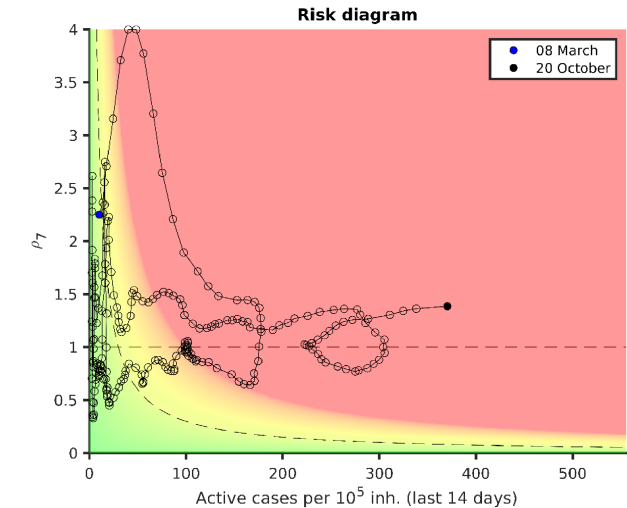
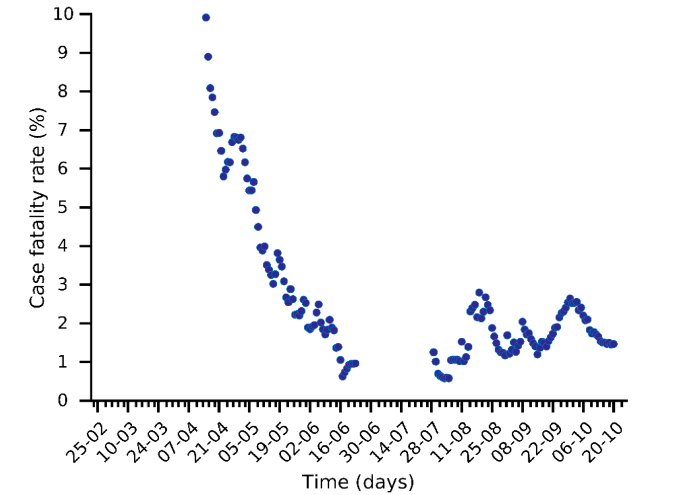
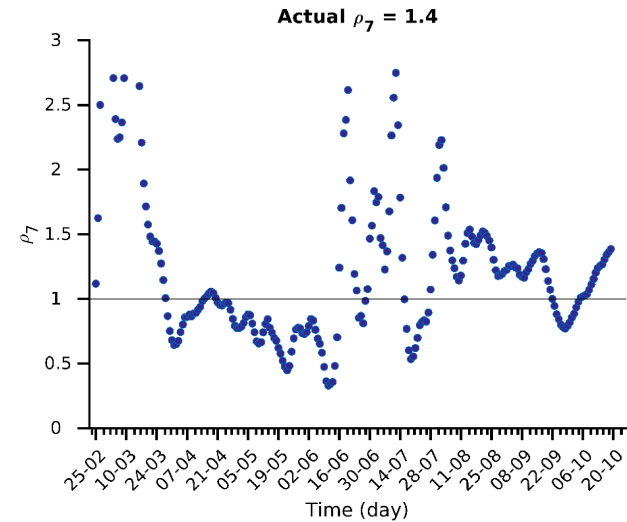
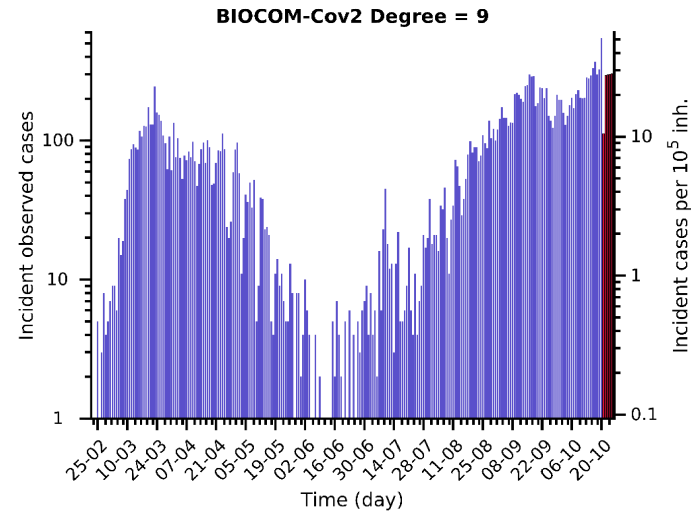
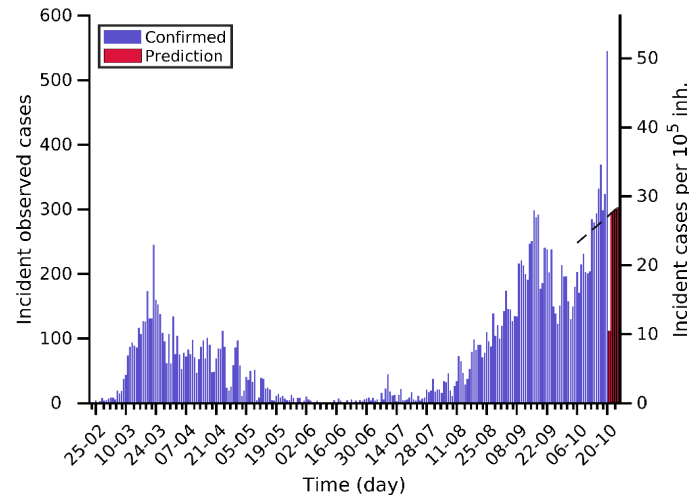


Extremadura 20-10-2020. Pop: 1.1M. Cumulative incidence: 1756/10⁵

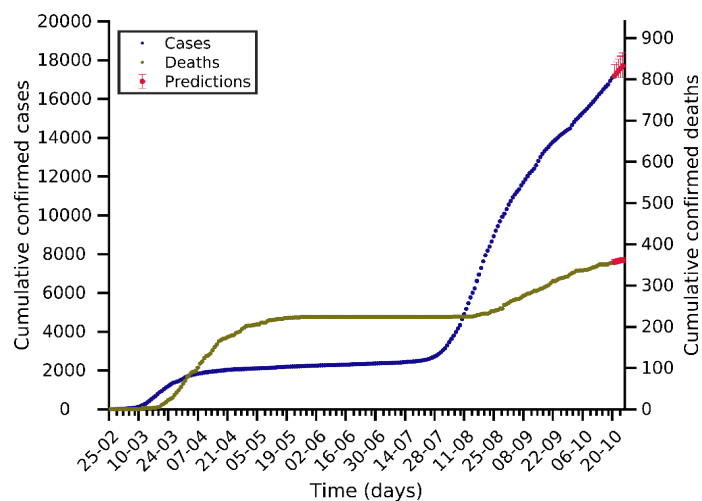


Predictions for next days		
Day	Number of cases	95% Confidence Interval
21-10-2020	18859 (+112)	[18747 - 20884]
23-10-2020	19450 (+297)	[18747 - 21565]
25-10-2020	20054 (+303)	[18747 - 22368]

Current indicators		
A ₁₄	EPG	CFR
370	513	1.46 %



Baleares 20-10-2020. Pop: 1.1M. Cumulative incidence: 1488/10⁵

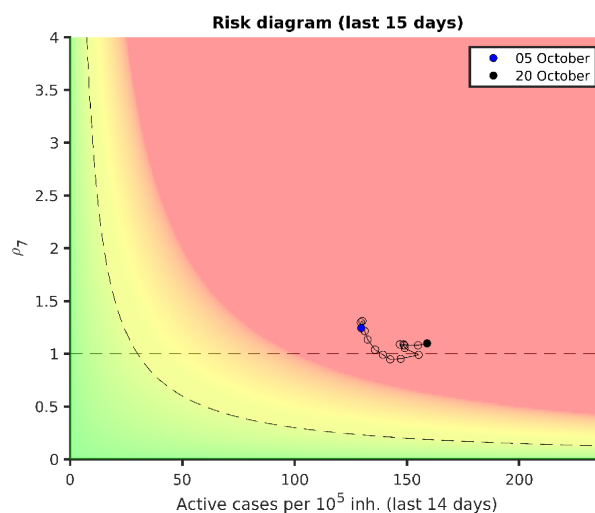
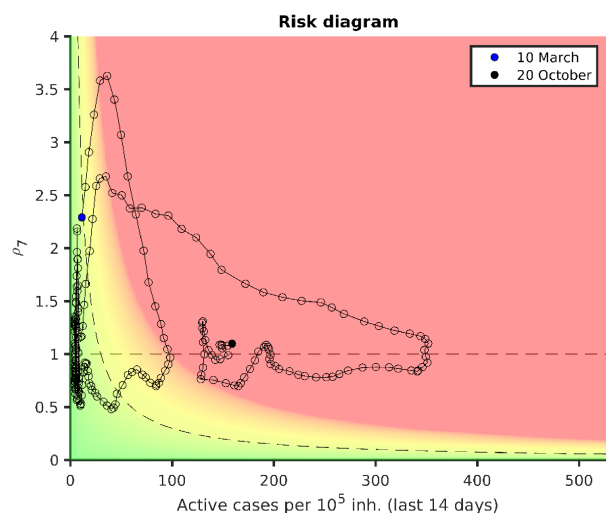
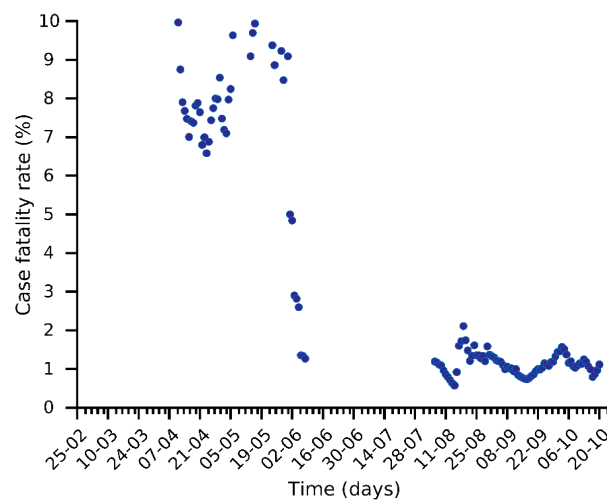
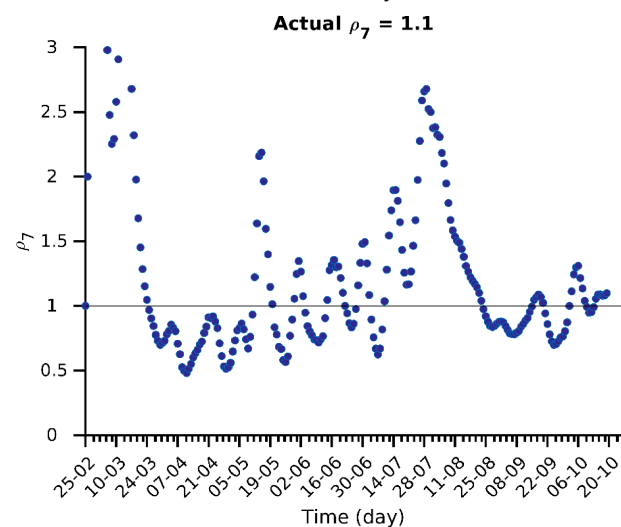
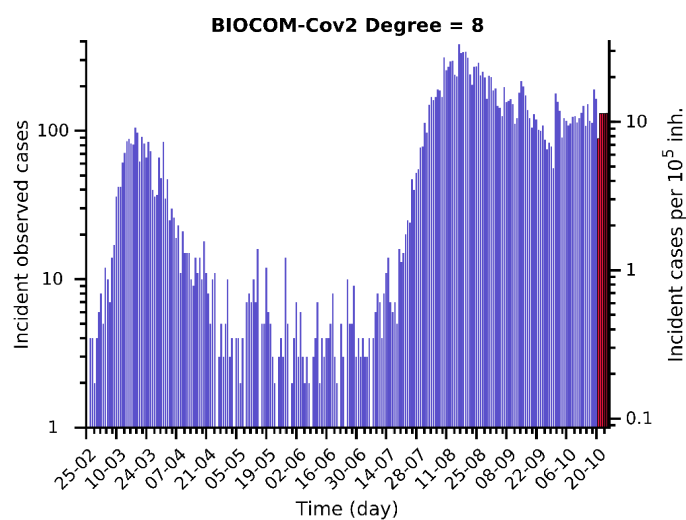
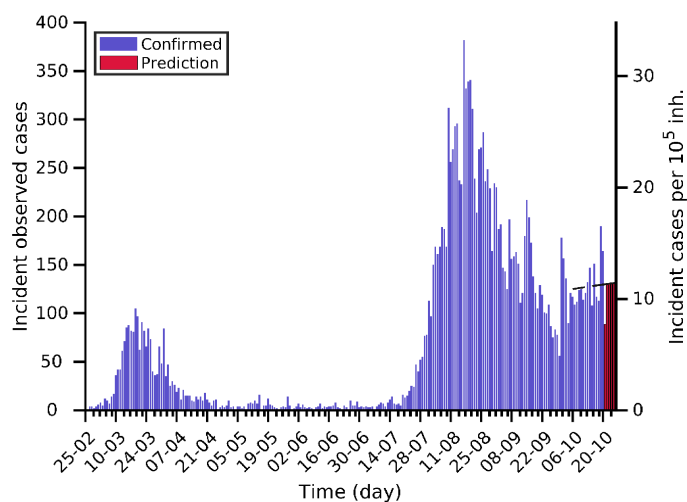


Predictions for next days

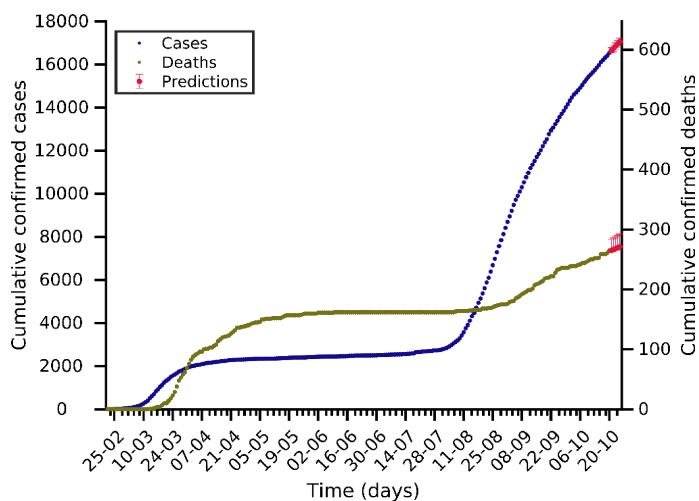
Day	Number of cases	95% Confidence Interval
21-10-2020	17191 (+89)	[17102 - 17776]
23-10-2020	17451 (+131)	[17102 - 18060]
25-10-2020	17713 (+131)	[17102 - 18373]

Current indicators

A ₁₄	EPG	CFR
159	175	1.11 %



Canarias 20-10-2020. Pop: 2.2M. Cumulative incidence: 768/10⁵

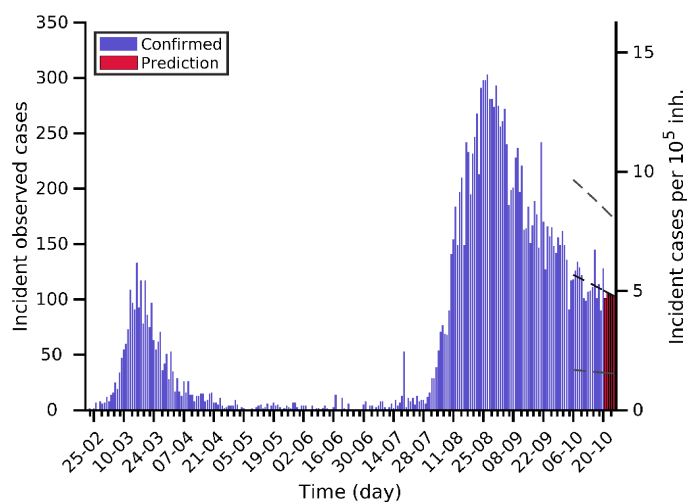


Predictions for next days

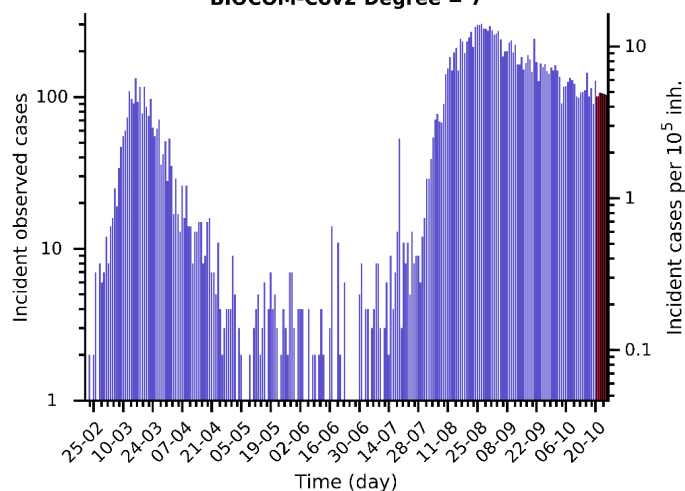
Day	Number of cases	95% Confidence Interval
21-10-2020	16646 (+101)	[16545 - 16789]
23-10-2020	16857 (+105)	[16709 - 17006]
25-10-2020	17065 (+103)	[16905 - 17224]

Current indicators

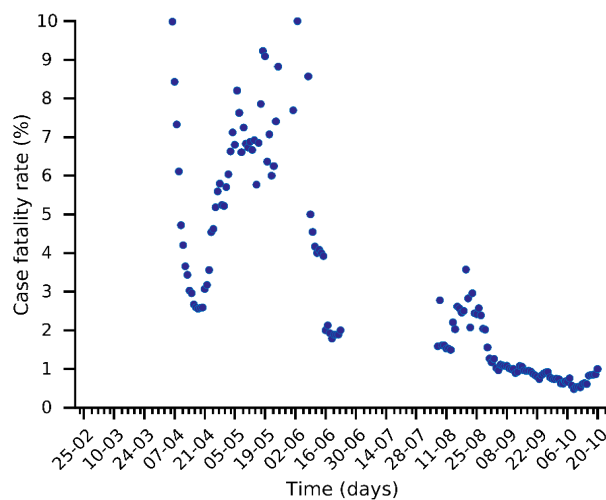
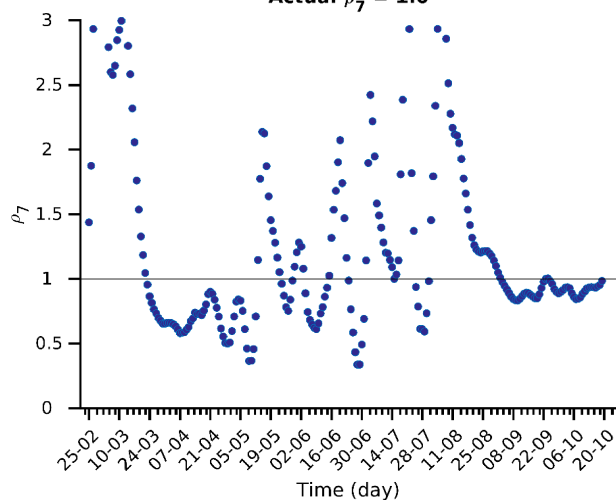
A ₁₄	EPG	CFR
75	74	1.00 %



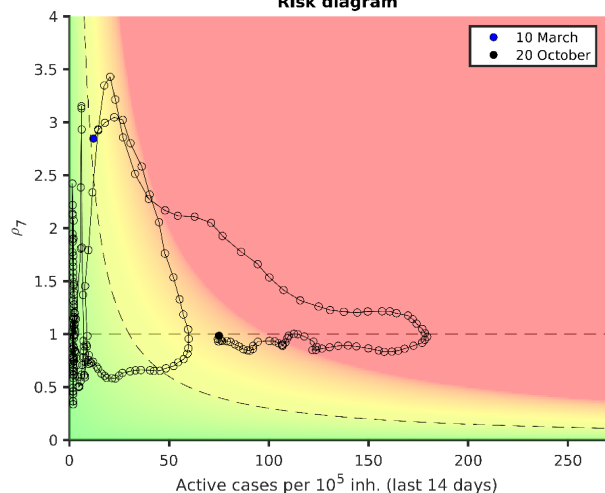
BIOCOM-Cov2 Degree = 7



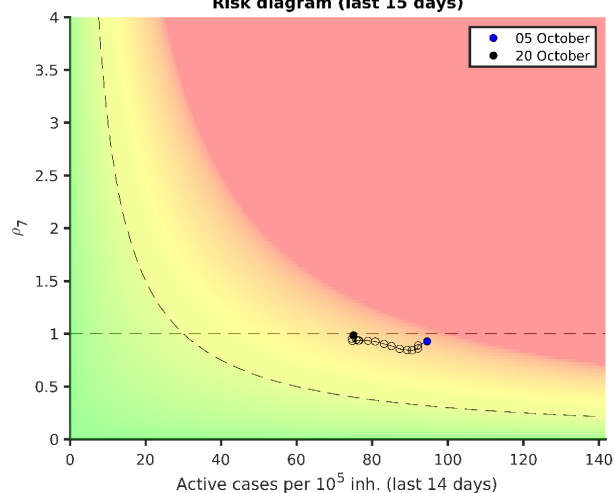
Actual $\rho_7 = 1.0$



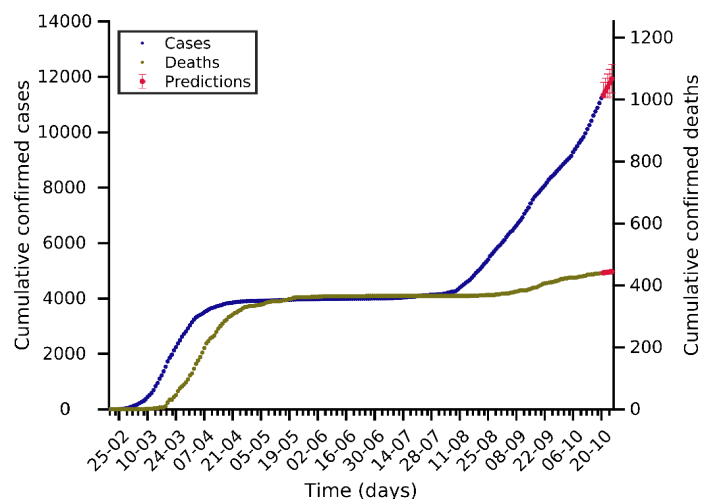
Risk diagram



Risk diagram (last 15 days)



La Rioja 20-10-2020. Pop: 0.3M. Cumulative incidence: 3547/10⁵

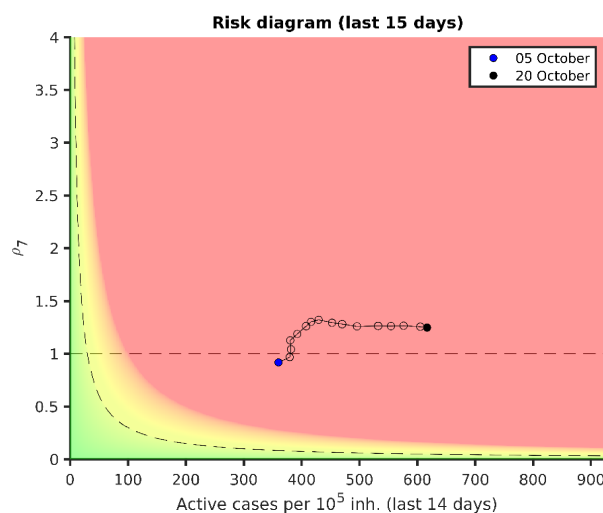
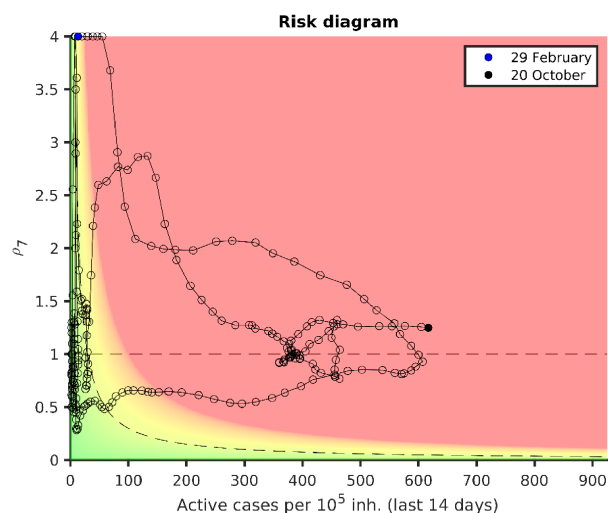
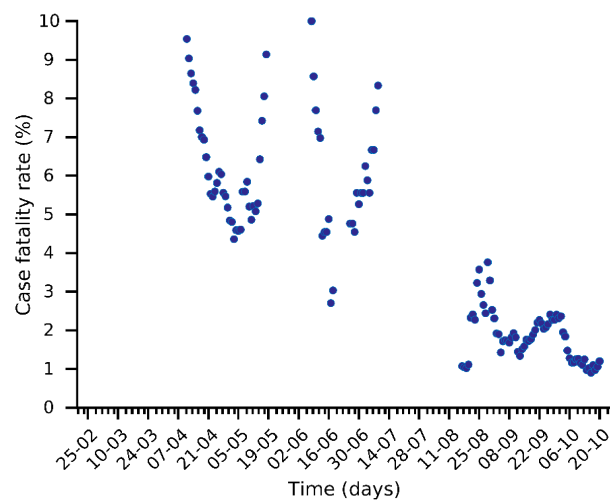
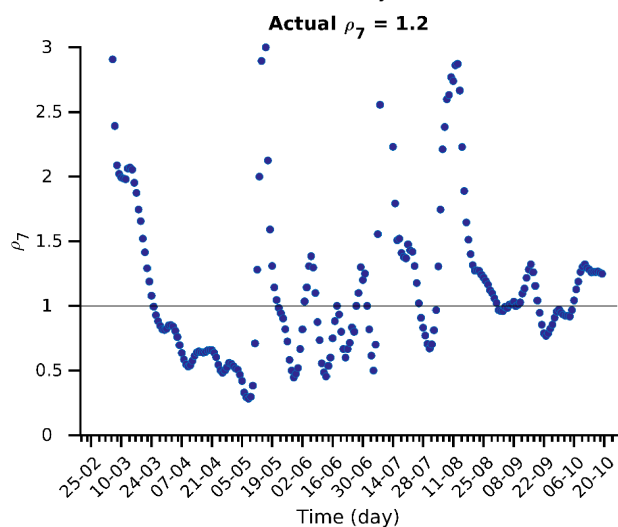
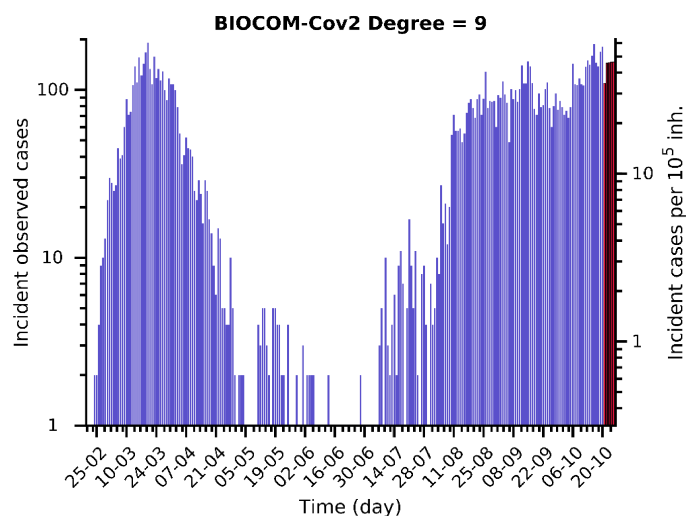
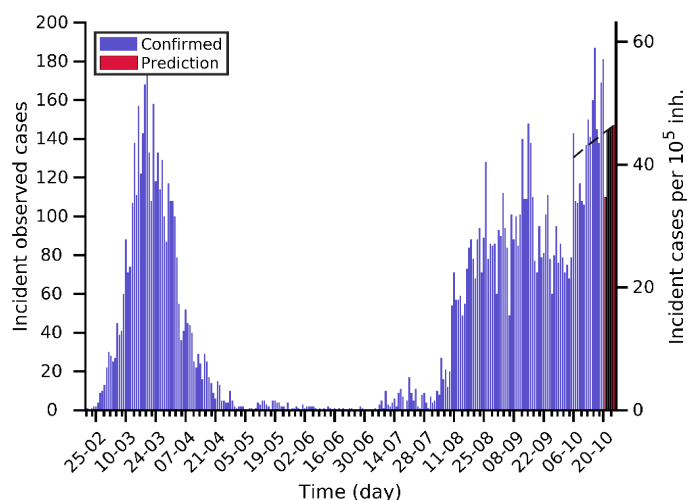


Predictions for next days

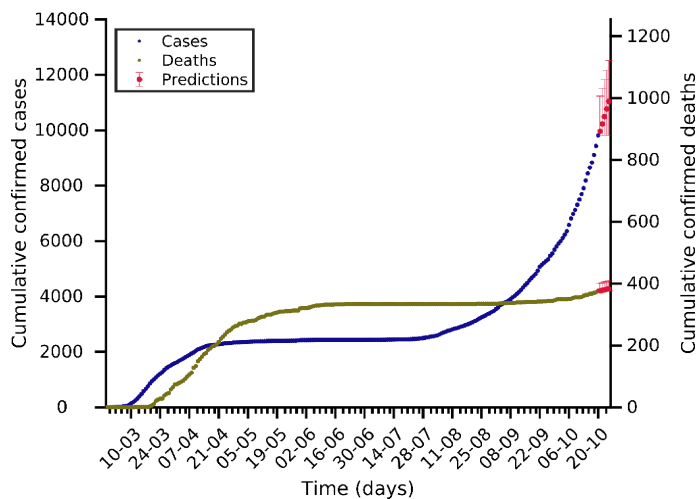
Day	Number of cases	95% Confidence Interval
21-10-2020	11347 (+110)	[11237 - 11801]
23-10-2020	11637 (+145)	[11237 - 12110]
25-10-2020	11930 (+147)	[11414 - 12445]

Current indicators

A ₁₄	EPG	CFR
617	770	1.20 %



Asturias 20-10-2020. Pop: 1.0M. Cumulative incidence: 960/10⁵

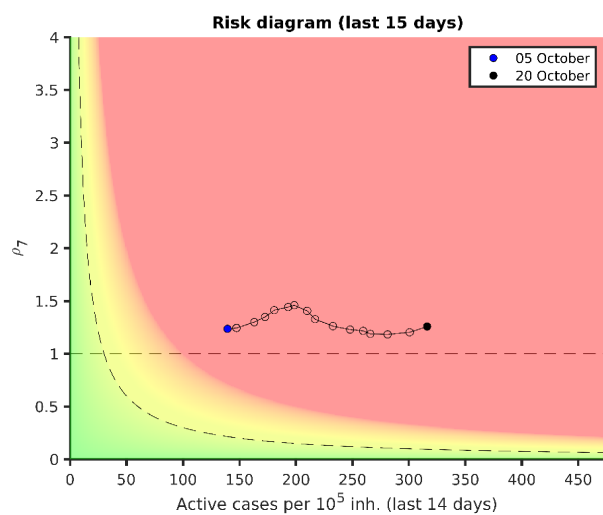
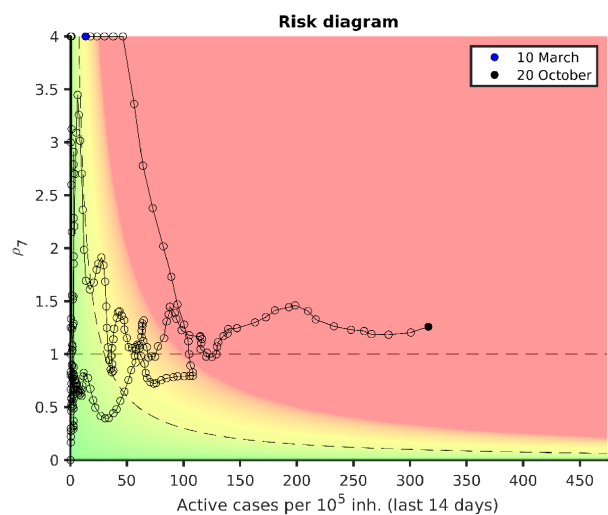
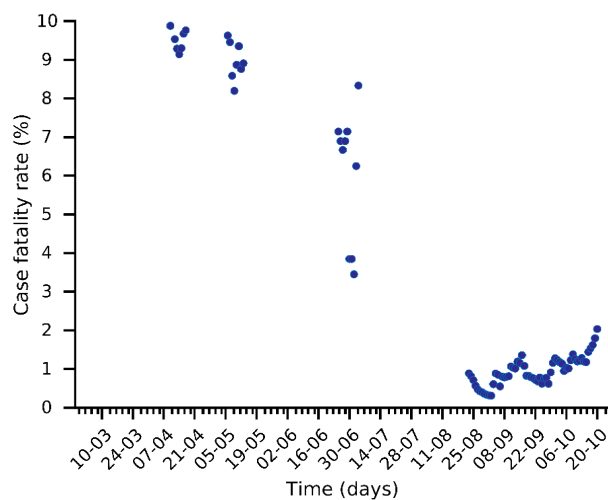
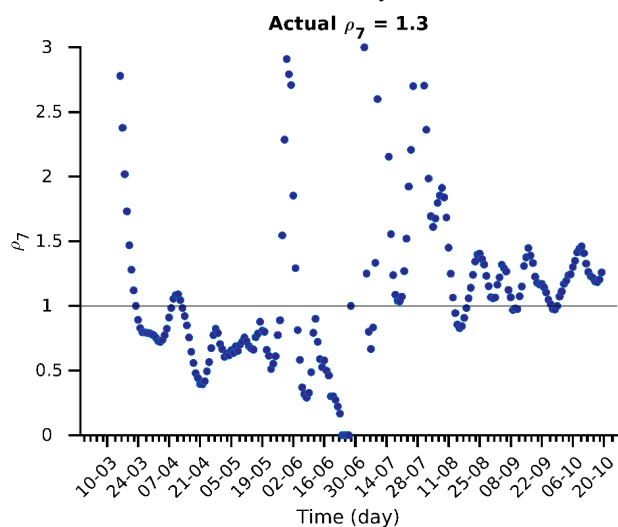
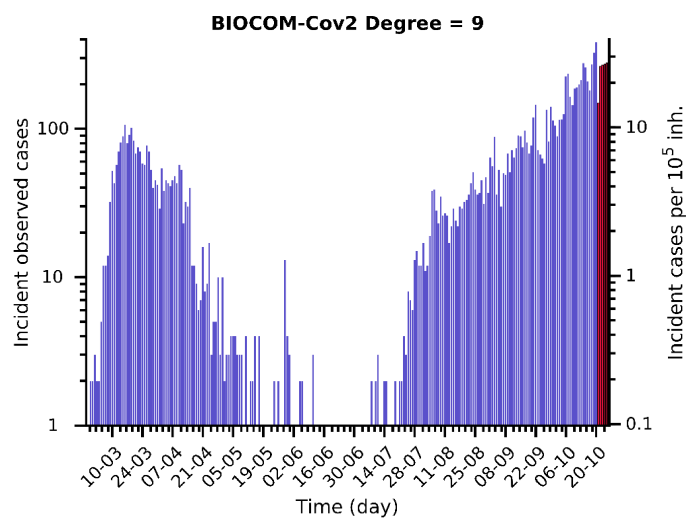
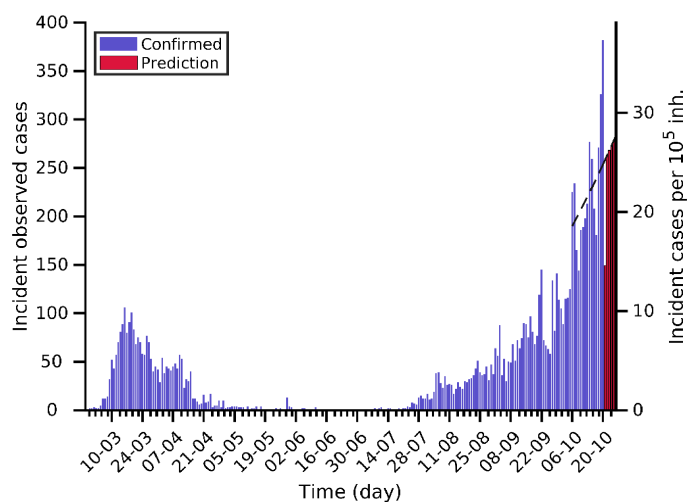


Predictions for next days

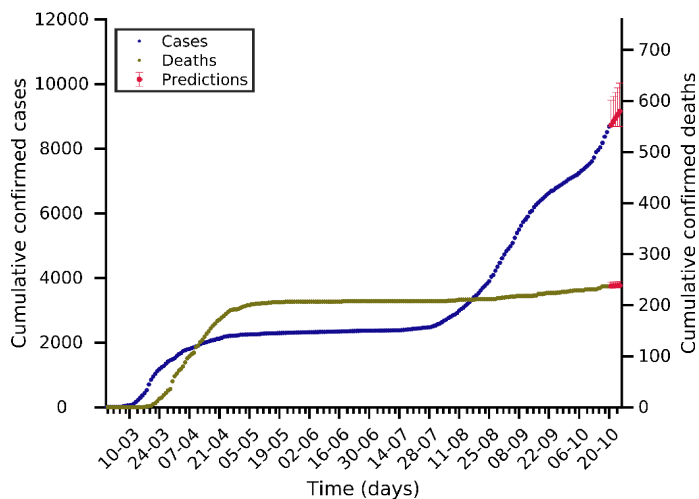
Day	Number of cases	95% Confidence Interval
21-10-2020	9964 (+149)	[9815 - 11232]
23-10-2020	10496 (+268)	[9815 - 11825]
25-10-2020	11047 (+278)	[9815 - 12520]

Current indicators

A ₁₄	EPG	CFR
316	398	2.03 %



Cantabria 20-10-2020. Pop: 0.6M. Cumulative incidence: 1495/10⁵

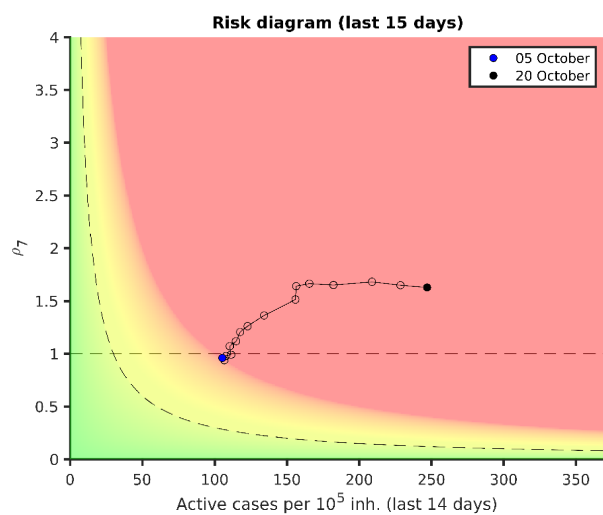
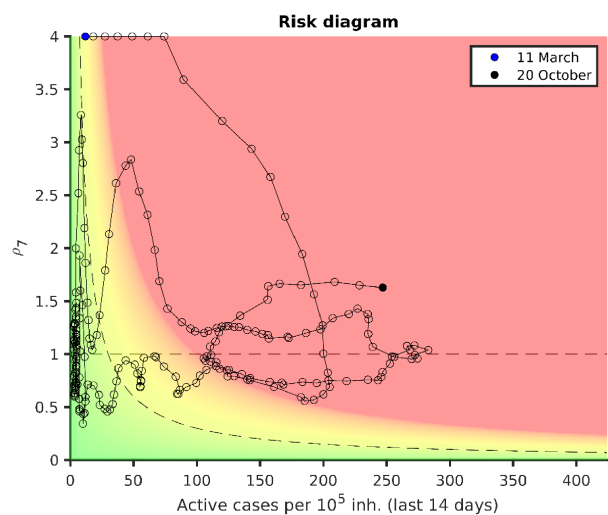
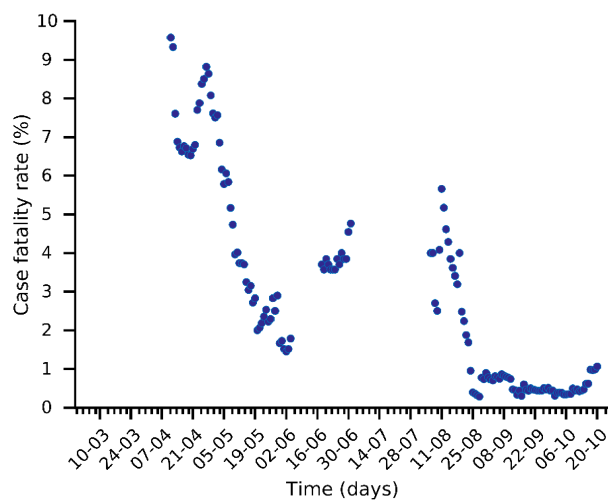
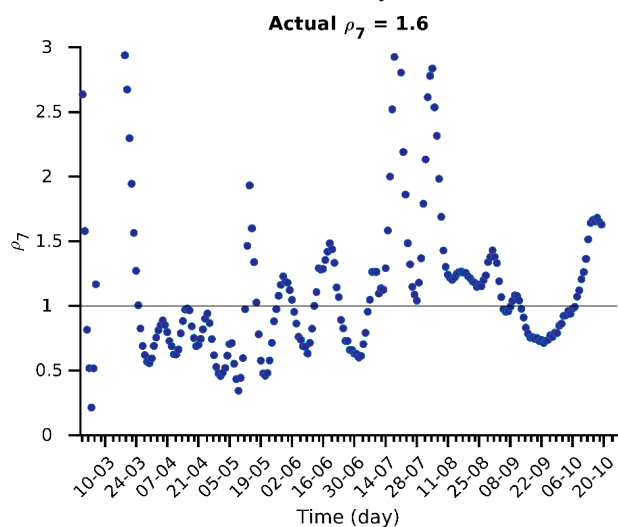
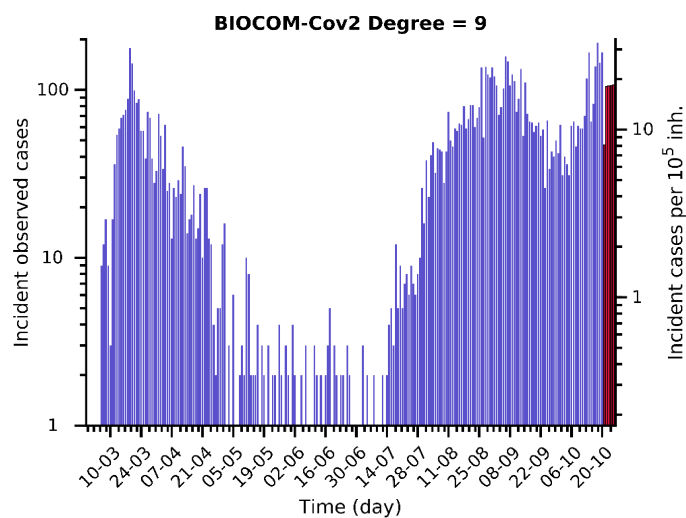
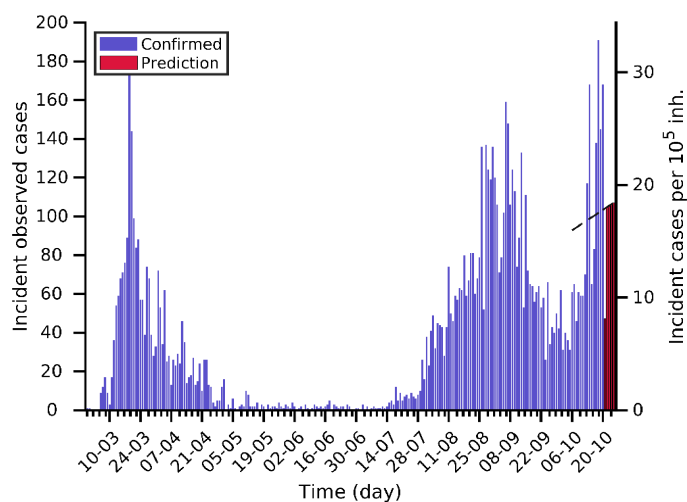


Predictions for next days

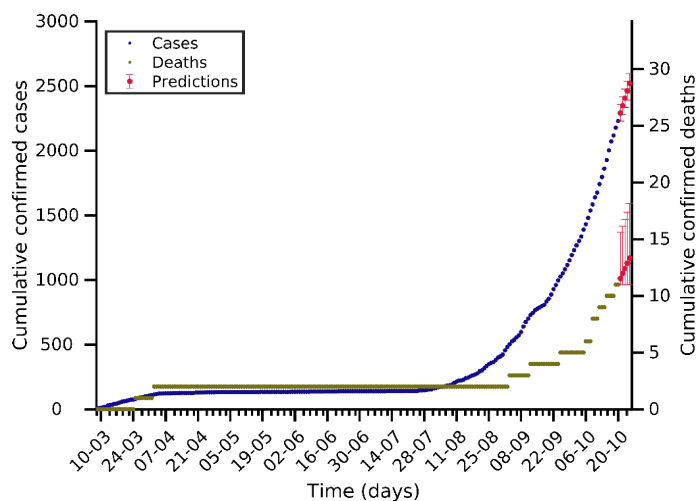
Day	Number of cases	95% Confidence Interval
21-10-2020	8733 (+47)	[8686 - 9504]
23-10-2020	8944 (+106)	[8686 - 9747]
25-10-2020	9157 (+107)	[8686 - 10033]

Current indicators

A ₁₄	EPG	CFR
247	402	1.06 %



Melilla 20-10-2020. Pop: 0.1M. Cumulative incidence: 2578/10⁵

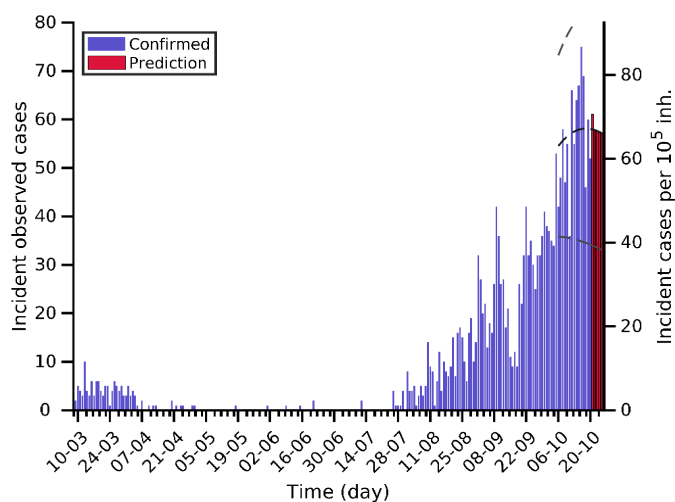


Predictions for next days

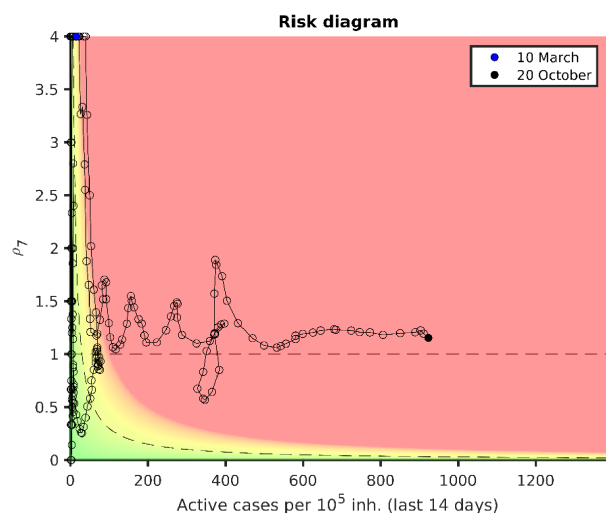
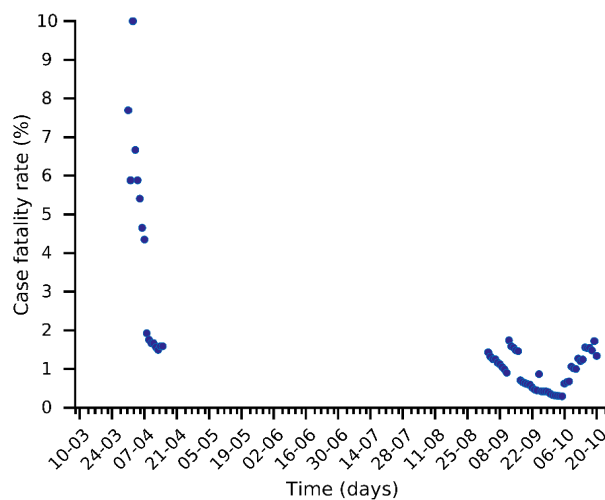
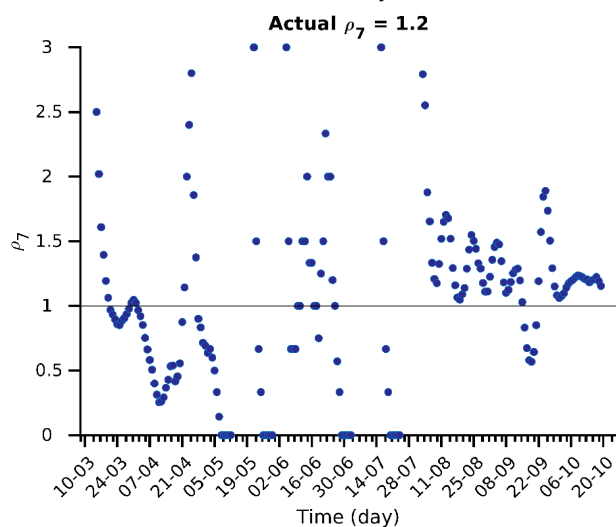
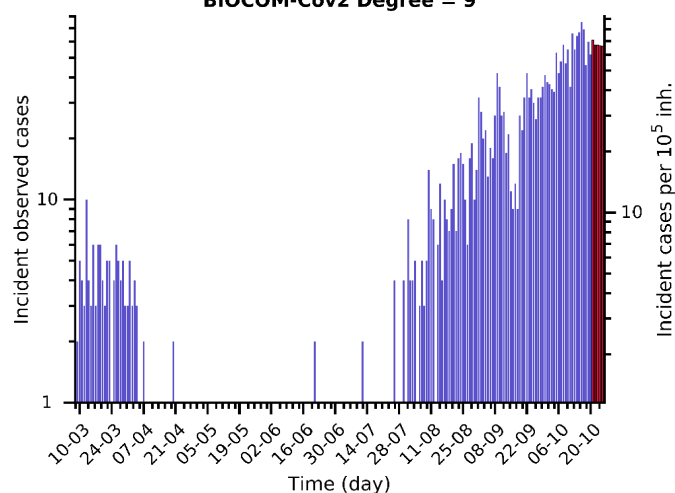
Day	Number of cases	95% Confidence Interval
21-10-2020	2291 (+61)	[2230 - 2359]
23-10-2020	2407 (+58)	[2336 - 2477]
25-10-2020	2521 (+57)	[2444 - 2598]

Current indicators

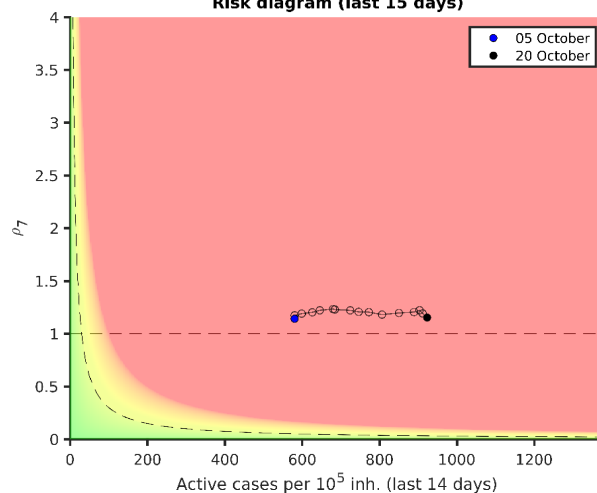
A ₁₄	EPG	CFR
923	1065	1.34 %



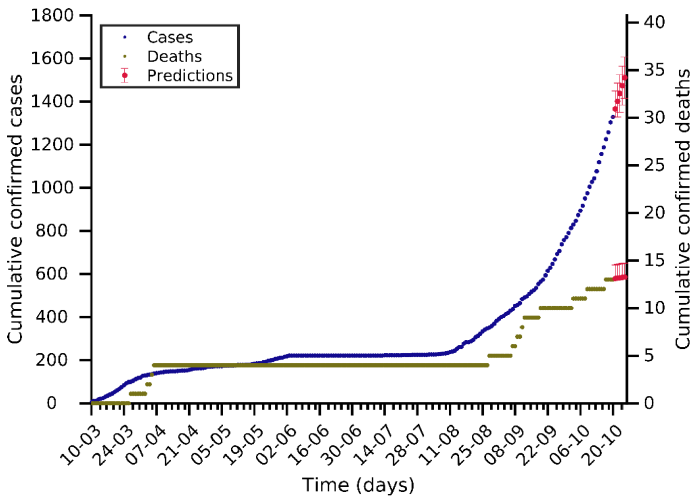
BIOCOM-Cov2 Degree = 9



Risk diagram (last 15 days)

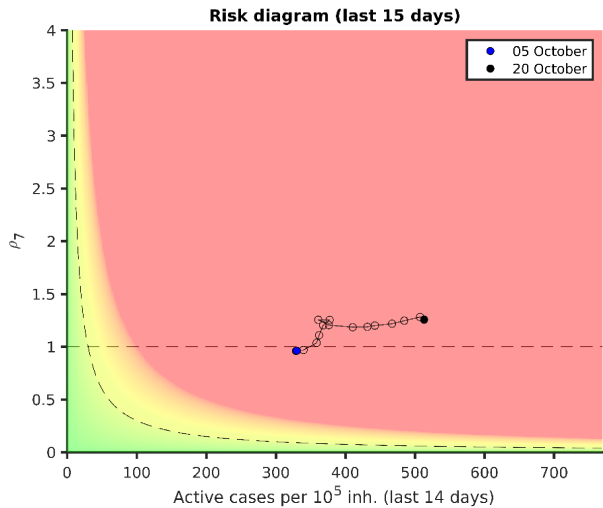
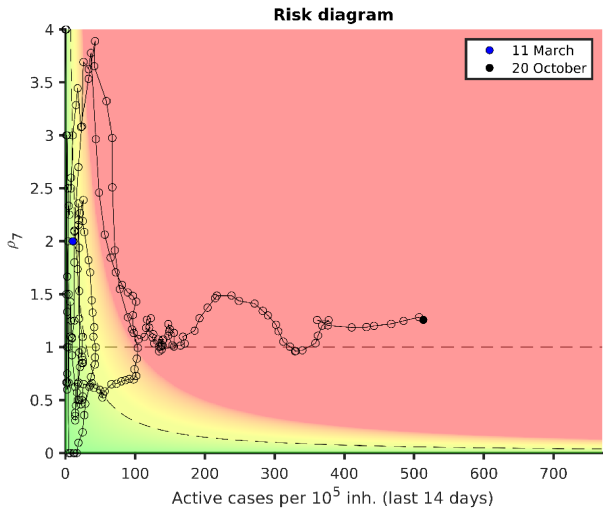
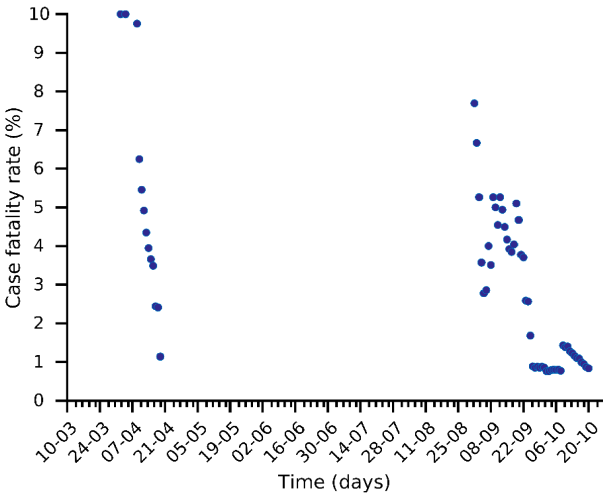
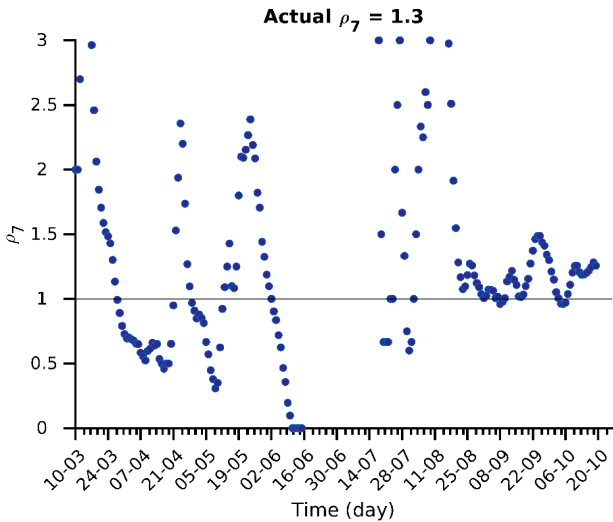
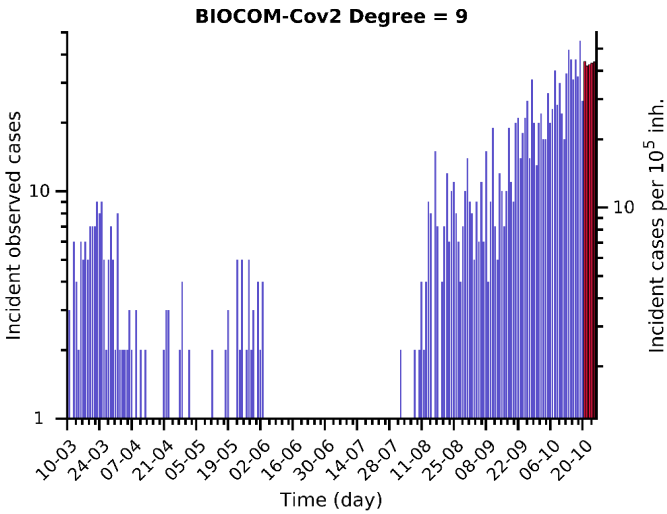
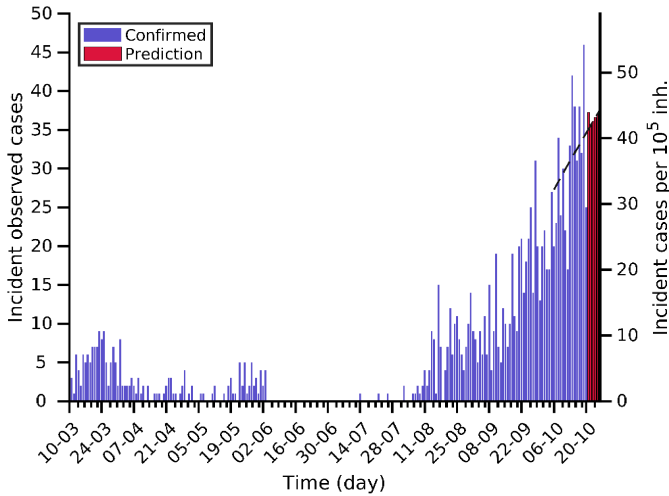


Ceuta 20-10-2020. Pop: 0.1M. Cumulative incidence: 1568/10⁵



Predictions for next days		
Day	Number of cases	95% Confidence Interval
21-10-2020	1366 (+37)	[1329 - 1449]
23-10-2020	1438 (+36)	[1351 - 1525]
25-10-2020	1512 (+37)	[1416 - 1607]

Current indicators		
A ₁₄	EPG	CFR
513	645	0.83 %



Methods

Methods

(1) Data source

Data are daily obtained from European Centre for Disease Prevention and Control (ECDC)¹ and country official sources (when indicated). Daily data comprise, among others: total confirmed cases, total confirmed new cases, total deaths, total new deaths. It must be considered that the report is always providing data from previous day. In the document we use the date at which the datapoint is assumed to belong, i.e., report from 15/03/2020 is giving data from 14/03/2020, the latter being used in the subsequent analysis.

(2) Data processing and plotting

Data are initially processed with Matlab in order to update timeseries, i.e., last datapoints are added to historical sequences. These timeseries are plotted for individual countries and for the UE+EFTA+UK as a whole:

- ✓ Number of cumulative confirmed cases
- ✓ Number of reported new cases
- ✓ Number of cumulative deaths

Then, two indicators are calculated and plotted, too:

- ✓ Case fatality rate: number of cumulative deaths divided by the number of cumulative confirmed cases, and reported as a percentage; it is an indirect indicator of the diagnostic level.
- ✓ ρ : this variable is related with the reproduction number, i.e., with the number of new infections caused by a single case. It is evaluated as follows for the day before last report ($t-1$):

$$\rho(t-1) = \frac{N_{new}(t) + N_{new}(t-1) + N_{new}(t-2)}{N_{new}(t-5) + N_{new}(t-6) + N_{new}(t-7)}$$

where $N_{new}(t)$ is the number of new confirmed cases at day t after applying a 7-day moving average to the new cases dataset, so that fluctuations (e.g., weekend effect) are smoothed.

(3) Classification of countries according to their epidemic level: the scale Biocom-Cov

Countries are assigned a degree in the discrete Biocom-Cov scale, which aims to facilitate a simple way of assessing the situation of the country. It is based on the level of daily new cases per 100,000 inhabitants as follows:

Pandemic degree	Daily new incident cases per 10 ⁵ inh.
0	0
1	0-0.1
2	0.1-0.5
3	0.5-1.25
4	1.25-2
5	2-3
6	3-5
7	5-8
8	8-14
9	>14

¹ <https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncov-cases>

(4) Fitting a mathematical model to data

Previous studies have shown that Gompertz model² correctly describes the Covid-19 epidemic in all analysed countries. It is an empirical model that starts with an exponential growth but that gradually decreases its specific growth rate. Therefore, it is adequate for describing an epidemic wave that is characterized by an initial exponential growth but a progressive decrease in spreading velocity provided that appropriate control measures are applied. Once in the tail, predictions work but the meaning of parameters is lost.

Gompertz model is described by the equation:

$$N(t) = K e^{-\ln\left(\frac{K}{N_0}\right) \cdot e^{-\alpha \cdot (t-t_0)}}$$

where $N(t)$ is the cumulated number of confirmed cases at t (in days), and N_0 is the number of cumulated cases the day at day t_0 . The model has two parameters:

- ✓ α is the velocity at which specific spreading rate is slowing down;
- ✓ K is the expected final number of cumulated cases at the end of the epidemic.

This model is fitted to reported cumulative cases of the UE and of countries that accomplish two criteria: 4 or more consecutive days with more than 100 cumulated cases, and at least one datapoint over 200 cases. Day t_0 is chosen as that one at which $N(t)$ overpasses 100 cases. If more than 15 datapoints that accomplish the stated criteria are available, only the last 15 points are used. The fitting is done using Matlab's Curve Fitting package with Nonlinear Least Squares method, which also provides confidence intervals of fitted parameters (α and K) and the R^2 of the fitting. At the initial stages the dynamics is exponential and K cannot be correctly evaluated. In fact, at this stage the most relevant parameter is α .

It is worth to mention that the simplicity of this model and the lack of previous assumptions about the Covid-19 behaviour make it appropriate for universal use, i.e., it can be fitted to any country independently of its socioeconomic context and control strategy. Then, the model is capable of quantifying the observed dynamics in an objective and standard manner and predicting short-term tendencies.

(5) Using the model for predicting short-term tendencies

The model is finally used for a short-term prediction of the evolution of the cumulated number of cases (3-5 days). The confidence interval of predictions is assessed with the Matlab function `predint`, with a 99% confidence level. These predictions are shown in the plots as red dots with corresponding error bar. For series longer than 9 timepoints, last 3 points are weighted in the fitting so that changes in tendencies are well captured by the model.

(6) Estimating non-diagnosed cases

Lethality of Covid-19 has been estimated at around 1 % for Republic of Korea and the Diamond Princess cruise. Besides, median duration of viral shedding after Covid-19 onset has been estimated at 18.5 days for non-survivors³ in a retrospective study in Wuhan. These data allow for an estimation of total number of cases, considering that the number of deaths at certain moment should be about 1 % of total cases 18.5 days before. This is valid for estimating cases of countries at stage II, since in stage I the deaths would be mostly

² Madden LV. Quantification of disease progression. *Protection Ecology* 1980; **2**: 159-176.

³ Zhou et al., 2020. Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study. *The Lancet*; March 9, doi: 10.1016/S0140-6736(20)30566-3

due to the incidence at the country from which they were imported. We establish a threshold of 50 reported cases before starting this estimation.

Reported deaths are passed through a moving average filter of 5 points in order to smooth tendencies. Then, the corresponding number of cases is found assuming the 1 % lethality. Finally, these cases are distributed between 18 and 19 days before each one.